

Boiler-tubes are drawn at intervals to enable a thorough internal examination to be made, and, since tubes are not drawn until the engine is received into the shops, the nature and extent of boiler repairs is not known until the boiler has been examined in the shops by the Boiler Inspector.

#### *Progress System.*

No progress system dealing with repairs is in force on the New Zealand railways, and it is considered that such a system might be introduced with considerable advantage. This would tend to expedite the completion of repairs, and would enable those responsible to know when particular engines would be ready for service.

#### *Standard Gauges.*

No system of standard gauges is in force, and, as a consequence, the interchangeability of parts cannot be relied upon. This naturally must be reflected in delays to engines and in maintenance cost.

#### *Charging of Repairs to Individual Engines.*

In each workshop there are order numbers to which wages and material for the workshops may be debited. Each workman is provided with a time-sheet, on which he notes daily the time worked on any particular job on which he is engaged, against the order number for such job. The time booked to the various orders is checked both by leading hands and foremen. From the time-sheets the time worked is summarized, and debited to the various orders, an average rate of pay being used for this purpose. All material is ordered by means of requisitions showing the order number on which such material is to be used. These requisitions for material are similarly debited to the respective orders, and are costed out. Overhead charges are also debited to the particular order.

#### *Foundry Charges.*

So far as the foundry is concerned, the work done is debited to a Manufacture Account, separate accounts being kept for steel, iron, and brass. All castings turned out of the foundry are charged to the various shops on which they are used at "issue rates," such rates being the price per pound or per hundredweight which would equal the average cost of manufacture. These "issue rates" are varied from time to time mainly owing to fluctuations in prices of raw materials.

#### *Locomotive Workshop Staff.*

The following are particulars of the staff employed in the various workshops in connection with the repairs to locomotives :—

Workshop.						Officers.	Clerical Staff.	Wages Staff (other than Running).	Total.
Petone	..	..	..	..	..	7	5	369	381
Napier	..	..	..	..	..	1	1	78	80
East Town	..	..	..	..	..	5	3	171	179
Newmarket	..	..	..	..	..	7	5	334	346
Addington	..	..	..	..	..	7	5	481	493
Hillside	..	..	..	..	..	7	6	345	358
Invercargill	..	..	..	..	..	1	1	62	64
Greymouth	..	..	..	..	..	1	1	49	51
Westport	..	..	..	..	..	1	1	32	34

#### *Staff Comparisons.*

In considering the mileage run by the locomotives—which is the only indication where there is no gross ton-mileage basis of the work performed—as the factor in deciding when it is necessary to bring engines in for a thorough overhaul, it is clearly indicated that the engines are in the shops too frequently. It is only possible to give a definite opinion with regard to this by comparison with what is done by other