

machinery which is very much out-of-date. The blacksmiths' shop meets present requirements, but is only provided with one steam-hammer and an old-fashioned punching and shearing machine. In the carpenters' shop there are three roads, one being set aside for heavy wagon repairs, another for carriage repairs, and the third for painting carriages. There is very little machinery provided, and what there is is old-fashioned. The wagon-lifting shop has two roads, and is too small for immediate requirements.

Generally speaking, the shops are very congested, and the work is only carried on under very adverse conditions.

GREYMOUTH WORKS.—The shops and the running depot are under one roof. The repair shop is very small and inadequate, and is not fitted with any modern lifting appliances, all engines having to be hoisted by means of jacks.

Most of the machinery in the machine-shop is out-of-date, and everything is in a very untidy and dirty condition. On the occasion of our visit two engines were in process of being stripped, and there was one stripped in the yard upon which no work was being performed. On inquiry it was found that the men had been taken from the engine in the yard and put to work on the two in the shed, which were more urgently required. The carriage and wagon shop is too small to meet requirements. The appearance of the erecting and machine shops is not satisfactory, although the engines turned out there appear to be in a clean condition.

It is, however, understood that within two years the whole of the workshops at Greymouth, and also the running-shed, will be pulled down and new shops erected at Elmer Lane, some three-quarters of a mile on the south side of Greymouth.

WESTPORT WORKS.—The shops at Westport repair the rolling-stock working on the isolated line between Westport and Seddonville, 32 miles in length. There are fourteen engines on the section, ten carriages, and some 700 wagons, including 673 of the hopper type, the traffic on the line being practically all coal. The works consist of blacksmiths' shop, machine-shop, and a combined erecting and carriage and wagon repairing shop. There is a separate shop for the repair and tarring of coal-hoppers. The shops are sufficiently large to meet present requirements, but the machinery is old-fashioned.

General Methods of Working in the several Shops.

The general methods of working are on similar lines in the various shops. New tender locomotives are constructed only at Addington and tank locomotives at Hillside.

The fitting-shop, boiler-shop, blacksmiths' shop, foundry, carriage-shop, and paint-shop are controlled by foremen. The work undertaken in these shops is dealt with in the following manner:—

Fitting-shop.—When a locomotive is sent to the shops it is allocated by the Foreman Fitter to one of the leading fitters in the erecting-shop, and such leading fitter carries out the repairs which are necessary and watches the progress of all parts disassembled for repairs. He orders, through the Foreman Fitter, any new material or parts required, and allocates the various jobs to be done on the engine to the several members of his gang. The leading fitter examines the various parts of the locomotive, and, if in doubt as to the necessity for repairs or renewal of any part, he consults the Foreman Fitter. The overhaul of side-rods, boiler-mountings, cylinder-cocks, valve-motion, pistons and valves of engines under repair are dealt with by the leading fitter in charge of the finishing-bench. The leading turner distributes metal turning-work to the various machines, the work being dealt with in the order of urgency. A leading machinist is in charge of milling-machines, planners, slotters, grinders, shapers, and other machines not worked by tradesmen, and he supervises the distribution of work to such machines. The coppersmiths' and tinsmiths' work is in the charge of a leading coppersmith, who is responsible for the copper-pipe work, for locomotives and brass work, for lagging boilers, running white metal in bearing-brasses.

Boiler-shop.—Locomotive boilers are manufactured only at Addington, both for the engines built at that place and at Hillside, and also to replace condemned boilers, this being the only workshop with sufficient boiler equipment for the purpose. All flanging is done by hand, as there is no flanging-press.