

rolling-stock and additions to the railway have for some time past been charged to the Harbour Fund.

2778. All the recent expenditure in rolling-stock?—Yes, and additions to the railway generally—anything chargeable to the capital account. That was provided for by “The Railways Authorisation Act, 1885.” The Board were given power under that Act, in the 7th clause, to construct certain railways and sidings.

2779. The Harbour Board Act would not give them power to spend money on harbour-works?—But this special Act was passed authorising them to spend money on railways at Greymouth and Westport.

2780. What is the procedure when you are going to act under that clause?—The Railway Department sends in a requisition for the work to the Harbour Board, and the Harbour Board passes a resolution recommending it for the approval of His Excellency the Governor in Council, which is sent to the Marine Department, which authorises the work to be undertaken; and the actual carrying-out of it is sometimes done by the Railway Department and sometimes by the Public Works Department.

2781. And charged to what?—It was charged to the loan, but when the loan ran out we had to stop doing such works; and the Railway Commissioners have been wanting sheds and improvements of various kinds which we have been unable to provide money for. Sheds are badly wanted on the new wharf, but there is no money for them.

2782. *The Chairman.*] You promised to think over the matter of the best way of supplying storage?—Yes. After considering the subject I arrived at these views: that the average output of the existing mines has in the past been under 150,000 tons per annum, or, say, 500 tons per working-day. The storage-room at present available in coal-trucks is about 1,500 tons, or, say, three days' supply, not counting 500 tons capacity of bins at the mines at present. The number of days during which the bar is liable to be blocked by bad weather may, from the experience of the past two years, be taken as not exceeding seven, except under extraordinary circumstances, and at such long intervals that large expense would not be justified in making provisions to meet these unusual occurrences. Allowing for the storage in the trucks, this would leave four days' supply, or 2,000 tons, as the storage-capacity required to equalise the output over the whole year, and to employ the smallest number of men in the mine with the greatest regularity, so far as the regularity is affected by the natural obstructions of the harbour. The different methods which suggested themselves to me by which this storage can be obtained are as follows: (a.) By providing further coal-trucks. This would cost £120 per truck carrying six tons, or £20 per ton of coal, equal to £40,000 for 2,000 tons storage. (b.) By building on the river-bank staiths similar to those at Westport, but with continuous lines of bins instead of only one here and there along the length, with an approach-line from the projected station-yard at Tivoli, together with a few sidings at Tivoli sufficient to hold one day's storage, and a weighbridge and a few offices. This would cost as follows: Siding, &c., at Tivoli, £1,500; approach-line from station to staiths, £9,000; staiths, 700ft. long, holding 2,000 tons, in 40 bays, each 17½ft. long, at £27 per running-foot, £18,900: total, £29,400—say £30,000.

2783. Are you aware how much the staiths at Westport hold—what storage?—I am not certain. I think it is 350 tons. There is no genuine storage. It is one bin at intervals. They are about 35-ton bins, and there are about ten of them there at intervals.

2784. And what did these staiths cost, do you remember, at Westport?—I could not say exactly, but I think it was £12,000.

2785. Could you supply that?—It would be rather difficult to do so. It would involve going into records fifteen years old, and would not apply to present proposals, as storage is not continuous at Westport.

2786. The staiths proposed here would be very much larger than those at Westport?—Larger than the present ones at Westport.

2787. It has been suggested that the staiths at Westport are not so much staiths for storing coal as merely for shooting the coal into the vessels?—Yes; but they have some storage.

2788. It does not provide storage in the proper sense of the term?—It does not; but the staiths which are now projected to be built at Westport are intended to provide storage similar to that which I have contemplated in this estimate.

2789. Then your next plan would be what?—By building on a site adjacent to the existing sidings behind the new wharf an ordinary storage-bin, similar to those commonly used at mines, with sliding-doors at the bottom, and elevated above the ground sufficiently for coal-trucks to be run underneath and loaded by opening the sliding-doors in the bottom of the bin. The bins to be filled by raising the truck-bodies and coal by a hydraulic crane to the top-level of the bin and placing them on under-frames, to be run along top of staging and emptied into the bin where required. The empty body would then be run back to the crane and lowered on to its own under-carriage again. The coal-bins to be made, say, three lines of rails in width, so as to make the distance the coal would have to be run on the top of the framing as short as possible, and the return of the trucks consequently as rapid as possible. The cost of this would be—Bins to hold 2,000 tons, £3,500; hydraulic crane, piping, foundation, &c., £2,000: total, £5,500.

2790. What would be the comparative cost of these methods?—In choosing between these methods it must be borne in mind that the alternative called (b)—namely, staiths like Westport, but with more bins—provides more than mere storage-capacity, and are coal-loading appliances themselves; so that in comparing them with either of the other alternatives the cost of, say, 700ft. of wharf and of two hydraulic cranes should be added to those other alternatives to put them on a par as to the total accommodation afforded. The cost of the wharf and cranes would be—700ft. of wharf at £12 per foot, £8,400; two hydraulic cranes with cylinder foundations like the present ones, but not including boilers, engines, or accumulator, as present one would probably suffice, £4,600: total, £13,000.