

Agriculture, has assisted us a good deal free of charge. I think the Government ought to place officials at our disposal, for the reason that we are endeavouring to establish an industry. We do not manufacture paint-brushes. They are made by the Otago Brush Company in Dunedin, and by Bunting and Co. in Christchurch. The duties in New Zealand on imported brushware have enabled the brushware companies to get in, and we want similar protection for our line. There are 2,000,000 tons of ferric oxide in sight at Parapara. Oxide can be largely used for roof-paint, but it has not been made here to any extent up to the present. If the Railway Department and the Education Department were to use it they would order enough to make it a paying proposition.

8. *To Mr. Hornsby.*] We import gum as an ingredient for varnishes. Kauri-gum is used in some varnishes, but it does not make the best varnish.

9. *To Mr. Hudson.*] I have seen samples of coloured clays from Rotorua. Some of them have a small percentage of oxide, and they might be of commercial value in cheap paints and be worked up into an industry.

10. *To Mr. Sidey.*] The Defence Department has used some of our paints and distempers. Our manufacture of terebine is sold at 6s. 6d., and the imported article is 12s. 6d.

MONDAY, 10TH FEBRUARY, 1919.

FRANK REED, Inspecting Engineer of Mines, further examined. (No. 12.)

Before I go into fresh matter I wish to explain, in connection with the cost of production of pig iron in New Zealand, that my estimate of the other day was only a very approximate one. In making the estimate of £6 per ton for the production of pig iron from Parapara ore and of £6 10s. per ton from Taranaki ore I made provision for loss of time owing to the furnace producing only one grade of pig iron, whereas five grades are at present used in New Zealand. The capacity of the furnace at Taranaki is stated to be 30 tons a day, which represents about 11,000 tons of pig iron per annum, working full time. The demand for pig iron in New Zealand has never exceeded 11,554 tons per annum, therefore it would be necessary for the furnace at Taranaki to supply the whole demand of New Zealand and produce five grades, whereas it will produce only one grade; there would thus be great loss of time, and consequently increased working-cost. Should the demand equal the production, then my estimated cost could be well reduced at least 25 per cent. Mr. Luke asked, if our requirements in steel rails were obtained from New Zealand, whether it would enable a furnace to be employed full time. Now, the steel-rail importation for 1911 is, I believe, the highest on record. It was 21,564 tons. Therefore if any New Zealand furnace could supply iron suitable for steel-rail manufacture and it obtained the whole of the New Zealand demand a blast furnace and steelworks would be warranted, provided the cost was satisfactory, to supply, say, 11,000 tons of pig iron and 21,564 tons of steel rails. I have given this explanation because probably the shareholders in these concerns will object to my estimate. They will not look on it in the same light as I do—namely, that the furnaces, if they are not working full time, will cause a number of men to be idle who require to be paid during that idle period, thus increasing the cost per ton.

1. *Mr. Hudson.*] You consider that it would not be a payable proposition?—Not at present.
2. How do you account for big extensions in Australia at present?—They are new works and practically in an experimental stage. Australia has a population of six millions, where we have a population of only one million to supply.
3. Quite recently the Broken Hill Company has been extending its works?—They only opened them a year ago. They have not installed yet the whole of the plant as originally intended. They had an official opening a year ago at the works as far as they were constructed, but they are still continuing their original scheme in laying out works.
4. Is Queensland not starting works?—I could not say.
5. They were advertising for a manager?—Possibly.
6. What about the Blyth River ore deposits? Are not the Commonwealth Government making a move to get possession of the works?—I do not know. I only know of the Lithgow Works (Mr. Hoskins) and the Broken Hill Works at Newcastle.
7. And what about Western Australia?—There is nothing being done there. There are no iron deposits of any magnitude there.
8. You mentioned on Friday that coke would have to be procured from Greymouth. What about Mount Burnett?—I know the mine there. The coal contains too much sulphur—more than 1 per cent.—to produce blast-furnace coke. They could make coke, but it would not be suitable. Having inspected the mine I do not think the coal is of great extent—in fact, none of the official reports are favourable regarding its extent. The coal-seam is almost vertical, instead of horizontal.
9. *Mr. Veitch.*] After all, the question of whether we should attempt to develop the iron industry would depend almost entirely on the quality of the ore, would it not?—I base it more on the cost of production. We have got a fair quality of ore at Parapara—perhaps better than fair. It is a question of the cost of production, and, of course, the cost of production depends much upon the demand.
10. Would the cost of production be appreciably reduced if we could find a suitable coal somewhere near Parapara, assuming that Parapara is developed?—If you could get a coking-coal near Parapara the cost of production would be reduced to the extent of the difference of the cost of transport between the point at which you find the coal near Parapara and the cost of transport from Greymouth.