

24. Are you aware that, according to all scientific teaching, one great defect of ironsand in smelting is its purity?—I am aware of this: that in its virgin state you get a very hard material, which is neither iron nor steel, suitable for many purposes, but such as you can overstock the market with. I am also aware that it would be almost impossible to overstock the market with malleable iron made under this process of mine.

25. Would the sample of iron you have exhibited do for casting?—I think it would be fit for anything.

26. You told the Committee that if foreign matter was mixed with iron it would be too hard and brittle for manufacturing purposes: is that true?—It would be very suitable in its virgin state for some purposes, but it would overstock the market with a hard kind of metal.

27. *Mr. Earnshaw.*] Have you got a model of the machine for testing?—Yes, I have one in Wellington.

28. One you are working under the exact conditions in which you apply it in the manufacture?—Yes.

29. Has the ironsand been tested as to whether scheelite or titanium is in the product?—I sent the residue of the sand you have seen to Dr. Hector. I merely asked him to tell me what were the contents of the packet. He replied, "Titanium, of no commercial value."

30. That is indirectly answering my question. I want to know if the ironsand product from the machine has been tested, and if any titanium has been found in it?—No, I have not been in a position to bear the expenses of a trial in a large way.

SECOND REPORT RELATIVE TO TREATMENT OF IRONSAND.

I HAVE the honour to report that the Committee has received the annexed letter from the Eureka Ironsand Reduction Syndicate, Auckland, with reference to Mr. Purser's method of treating ironsand, and that this Committee is of opinion that the said letter should be referred to Government, in order that it may be considered together with Mr. Purser's evidence.

WILLIAM HUTCHISON,
Chairman.

31st August, 1894.

APPENDIX to above REPORT.

Temporary Office, Corner of Vulcan Lane and High Street,
Auckland, 16th August, 1894.

SIR,—

Having noticed in our local papers that a Mr. Purser, of Blenheim, is reputed to have solved the difficulty of dealing with the ironsand of this colony, and having had an opportunity of fully discussing with that gentleman the merits or demerits of his process of bricks, we take the liberty of submitting to you samples of iron made from the Taranaki ironsand by the fluxing process, patented by Messrs. Muriett and Jones. And for our own interest we feel in duty bound to place under your notice the leading features of our treatment, and also to point out to the uninitiated what appears to us to be the unsurmountable obstacle in the way of success of Mr. Purser's patent.

We are of opinion that this industry is of vastly too great importance, not to ourselves only, but to the colony at large, to have, following on the heels of so many failures, any further attempt to treat the ironsand placed before the public, unless the scheme proposed be based upon practical and certain lines; consequently we feel that you will absolve us from any appearance of jealousy or antagonism to Mr. Purser in our criticism of that gentleman's mode of treatment. We are in a position to prove conclusively that our artificial ore contains all the essential ingredients of the best argillaceous ores of Scotland, and, as such, the correct treatment of the ore must be identical with the manipulation of the other, and the cost of both will therefore be alike, assuming that both are worked in the same country or district.

Since, however, the field of operation in connection with the New Zealand ironsand must of necessity be New Zealand, the cost of labour and transit of material will be proportionately greater than that which obtains in the Old Country; but against this extra cost of production we maintain that we have a sufficient margin in the excess and quality of the metal product obtainable from our ore as against the production from the Scotch ore—*vide* tabulated analysis by Dr. Hector and Dr. Colquhoun in the case of samples which we hope to forward per next boat.

With regard to Mr. Purser's patent and its possibilities, all we desire to state is simply this: That, until some means can be devised of deoxidizing the oxides of iron without the aid of any fluxing substances, we unhesitatingly affirm that, both scientifically and commercially, Mr. Purser's blocking the sand into bricks or lumps is absolutely valueless. Please note that we are not, nor do we intend, to fall back upon the too-oft-repeated practice of some enthusiasts, of harassing your Government by soliciting monetary assistance. All we ask is that, before your Committee formulate any recommendation to the Government to favour any particular scheme or patented process for the reduction of the sand, a fair, full, and impartial inquiry into the merits of our process shall be made by them; and, in the event of any special reason being noticeable why assistance should be rendered to either, that it be given to foster the one which, when submitted to the best known scientific and practical tests, proves of the most commercial value.

With regard to the merits of his machine for separation of the magnetic oxides, we have no comment to make, our contention being as above—that, when separated, the magnetic oxide is not in the requisite form for smelting, nor for treatment by any known process.

I have, &c.,

F. J. STUBBINS,

For Eureka Ironsand Reduction Syndicate of New Zealand.

The Chairman, Tariff and Industries Committee.