

APPENDIX TO REPORT OF

(237.)—Major J. A. GRAY to Dr. HECTOR.—12th March, 1872.

Mr. Stonyer requests me to thank you for the details of experiments with rope, and to state he has none of the rope by him, but is getting some made, and hopes to send it on Saturday. He is sending you two lengths—one No. 1 of double-dressed flax; No. 2 is best single stripped—both made and oiled alike. The oil is made hot, and the yarns passed through while it is simmering. They are not kept in, but merely passed through. If you can run the two together you will see which works best.

From our experiments we think the oil does not do much good to ordinary rough fibre, but our trials are not sufficiently numerous to say decidedly, as occasionally a good rope in other respects will go from some injury or defect in the manufacture at a certain part.

We tried an oiled pump rope made of the Ashley Gorge flax, which is considered the best single stripped here, and it only ran three days. One of the same, tarred, did not last a day, and one of plain white nearly two days. We then tried some double stripped, white, from young flax, that went twenty-nine days.

We then put in on 1st January a new one, two ropes of which were the same as that you have, and one of ordinary flax, oiled the same; but the ordinary flax shrunk so much more they would not work together, so we had to take it out, and put one of the other kind in. This is still going.

Our pump only runs ten hours a day, and the rope passes over each pulley about nine times per minute. This rope was made from fibre from old leaves that were gone brown at the tips, and, consequently, what we call seconds. The fibre was considerably cut in dressing, so much so the rope spinner complained greatly of its being over done; but my present opinion is that for ropes to run in blocks or over pulleys you must have the fibres well opened and very soft, and it is questionable if the old leaves, if they are not too far gone to clean well, are not better than the young ones.

If a rope is wanted simply to bear a straight strain without being bent, no doubt the long unbroken fibres will make the best.

I enclose copy of account sales of the bale that took the first prize at Christchurch in 1870, samples of which you have. We have sent home five tons of the same to a private order, and we have an order for twenty tons more at £45 delivered in London, besides an order for two tons to go to Melbourne at nearly as good a price.

We have been making some experiments with a machine the Flax Association here have had made, which adopts the first portion of the plan I wrote to you about before, which is successful as far as it goes, but still wants the finishing process to bring it to the highest class fibre. I have no doubt they will have forwarded you samples.

Enclosure.

(No 1491.)—ACCOUNT SALE.

Of one bale of flax, ex Cyrene, from Lyttelton, sold ex Public Sales in London, 26th September, 1871, by order of the New Zealand Loan and Mercantile Agency Company, Limited, for account of Messrs. Cobb and Lawtell, of Christchurch:—

Lot.	Mark.	No.	Package.	Gross Weight. cwt. qr. lb.	Tare. lb.	Nett. cwt. qr. lb.	Price per Ton.
59	W. S. & Co. } Pastoral }	30	1	3 0 13	21	2 3 20	£42

For the New Zealand Loan and Mercantile Agency Company, Limited,
(Signed) W. J. STEELE, Secretary.

(No. 254.)—Messrs. BENNETT, BROTHERS, 8, St. Mary-at-Hill, London, to Mr. SKEY.—
16th March, 1872.

Noticing your experiments with different kinds of fibres, and our business being in this article, we write you asking if you would kindly oblige us with a small quantity of the fibre (*Phormium*) after its treatment with the caustic potash, and also a little of the raw. We think it would be interesting to some of our manufacturers, and, therefore would be much obliged by your kindly assisting us in this matter.

(No. 218.)—Dr. HECTOR to Messrs. BENNETT, BROTHERS, 8, St. Mary-at-Hill, London.—
8th June, 1872.

Your letter of 16th March, addressed to Mr. W. Skey, respecting the supply of a small quantity of *Phormium* after treatment with caustic potash, has been referred to me by that gentleman. Your request shall be attended to, and I will have the pleasure to forward a sample by the next English mail.

You will be able to procure samples of the raw fibre on application to Dr. Featherston, the Agent-General for this Colony, of 7, Westminster Chambers, Victoria Street, who will, no doubt, be able to furnish you with all the information you require on this subject.

(178a.)—Dr. HECTOR to T. KELLY, Esq., M.H.R.—16th November, 1871.

In reply to your letter of 9th September, offering to place at the disposal of Government certain improvements which you have designed on the flax-dressing machinery now in use, and naming certain conditions, I have the honor to inform you that, after considering the plans submitted by you, the Flax Commissioners have resolved to devote a sum not exceeding £70 for the purpose of testing your improvements by practical construction, and I have to request that you will be good enough to take the necessary steps to have the machine made, and to report to me when it is ready for inspection.