

APPENDIX TO REPORT OF

gradually improved. If you should be able, as I hope you will, to report favorably of the rope which is submitted to you for experiment, it may be expected that a market for that product, and for the flax itself, will be found in the United States, and commercial relations between that country and this Colony be extended.

I have, &c.,
(Signed) JULIUS VOGEL.

[Extract from *Gazette* of 27th March, 1871.]

Colonial Secretary's Office,
Wellington 27th March, 1871.

The following reports by Commander Lewis, and Mr. Rhoades, Master and Navigator of the United States steamer "Resaca," on the strength and durability of the New Zealand flax used on board during the voyage between New Zealand and Chili, are published for general information.

In the absence of Mr. Gisborne.

W. Fox.

U.S. steamer "Resaca" (3rd Rate),
Valparaiso, Chili, 24th November, 1870.

SIR,—

In obedience to your order, I have the honor to make the following report regarding the strength, endurance, &c., of the New Zealand flax rope sent on board at Auckland for trial on the passage over to this port :—

It has been rove off for tacks, sheets, staysail halyards, jib sheet, whips, &c. ; and, as well as I have been able to judge after so short a time, although it has been in continuous use for fifty-four and a-half days, and the passage a wet and excessively stormy one, I consider it fully equal to any Manilla rope I have ever used, after a long experience at sea with it. What effect long and continuous hot and dry weather may have upon it, after its exposure to wet, &c., just experienced, I am unable to state, but am of opinion that it will in all probability prove a durable and excellent cordage for vessels.

Commander R. F. R. Lewis,
Commanding U.S. steamer "Resaca."

I have, &c.,
W. W. RHOADES,
Master and Navigator.

Mr. Rhoades, as an officer of long experience both in the Merchant Service and the Navy, was given the especial charge of the trial of the strength, endurance, &c., of the rope mentioned above, on the passage over from New Zealand to this port, and I fully concur with him in his report.

R. F. R. LEWIS,
Commander, U.S.N.

(No. 130.)—Major J. A. GRAY, Kaiapoi, to CHAIRMAN.—August 12, 1871.

You wished me to let you know how long the rope on the Californian pump lasted ; I have, therefore, to inform you that the first break occurred this day. It has been at work thirteen weeks and four days ; the other portion looks as if it would last some weeks longer.

This, I think, you will allow, is very satisfactory ; we have never had one of ordinary New Zealand flax to last more than eight days, and the best Manilla twenty-eight days.

I am going to have a quantity of the same quality made up, so that it can be tried for various purposes ; and I intend to send some to Wellington and the various other ports. If it will maintain anything like this superiority over ordinary kinds, one great difficulty in the flax problem will be solved ; and it will be only requisite to go on improving the quality, and lessening the cost of production, if possible.

We have made a slight alteration in our double machines since you were here, by putting a pair of rollers under the bottom machine to catch the flax as it comes down, which prevents it ever going round the spindle ; and we have one roller about half as big again as the other, this gives the flax a rubbing squeeze, and, I think, much improves it. A sample shall be sent you in a few days.

(No. 107.)—Mr. JOHN PEARCE, Christchurch, to CHAIRMAN.—20th July, 1871.

Having noticed in public print a report of yours on yarns spun from New Zealand Flax, after near thirty years experience as a manufacturer of different sorts of fibre into rope, &c., I beg to offer you a scale of difference of weight of same size yarn spun from Russian Hemp and New Zealand flax :—

FROM RUSSIAN HEMP :										
16			18			20			22	
Yarn 160 fathoms long										
lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.
4	0	0	3	8	14	3	3	3	2	14
									9	2
									8	15
FROM NEW ZEALAND FLAX :										
16			18			20			22	
Yarn 160 fathoms long										
lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.	drs.	lbs.	oz.
3	0	0	2	10	11	2	6	6	2	2
									15	1
									14	11

The above are the most general size yarns used for the manufacture of cordage from Baltic hemp, and mean any one number of these yarns to a strand will make a three-strand shroud laid rope, from which the number of yarns either for shroud or hawser laid, of any required size or number of strands, are to be ascertained, and show a difference of one-fourth more weight in the European over New