

STONEYER & Co., Kaiapoi, Canterbury, June, 1871.

Use a water-wheel of 14 feet diameter, and the same number of feet broad, which works two double stripping machines and one scutcher, and raises water sufficient for washing the fibre. It is about equal to a 20-horse power steam engine, and therefore could keep more machines at work. At night it drives a flour mill. They have tried Williams', Howarth's, and Barnes' machines, but they did not work so well as Anderson's; Barnes' was constantly blocking up. They have plenty of flax in their neighborhood, and it costs them 10s. a ton for cutting. It is passed through two of Anderson's strippers, one fixed below the other, and the two are fed by one operation, the leaf passing from one machine to the other without a second handling. A stream of water flows through the strippers, falling into a shoot below, into which the fibre drops, and is carried along some 20 feet, where it is picked up by a boy, put into hanks, and hung on hooks fastened to a pole that stretches across the mill stream, and remains there for an hour. It is then put out on lines to dry, and in summer will bleach in twenty-four hours, but in winter it will take as much as a week. The second stripper is of great advantage, when sufficient power can be easily obtained, for this fibre is soft and of very good colour, and took the 1st prize at the exhibition of the Canterbury Flax Association, in 1870. The expense of preparation is not increased, and flax baled, and covered with cloth, ready to be shipped, could be produced at this mill for £16 a ton (exclusive of interest, wear and tear), as the raw material is easily obtained, and the water power is abundant, and wages are moderate. It takes $7\frac{1}{2}$ tons to produce a ton of fibre from one machine; and the various expenses are as follows:—

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|---|-----|-----|-----|--------|----------|
| $7\frac{1}{2}$ tons of green leaf, at 10s. | ... | ... | ... | ... | £3 15 0 |
| 1 feeder, $7\frac{1}{2}$ days, at 4s. | ... | ... | ... | ... | 1 10 0 |
| 2 washers, " at 4s. 6d. | ... | ... | ... | ... | 3 7 6 |
| 2 men taking and bringing in from field, at 5s. | ... | ... | ... | ... | 3 15 0 |
| Baling and pressing | ... | ... | ... | ... | 10 0 |
| Covering | ... | ... | ... | ... | 1 0 0 |
| | | | | Total, | £13 17 6 |
| Scutching | ... | ... | ... | ... | 2 0 0 |
| | | | | | £15 17 6 |

They have sold it to Lennan, for rope spinning, at £27 and £30 per ton. Flax cut on the road-side in December, 1869, and December, 1870, has now (June, 1871) four and five leaves to each set, and is four and five feet high. They use an American lever cotton press for baling, which is very simple, and more powerful than a screw. White New Zealand rope will barely last a week in their "Californian pump," always wet; but when prepared with whale oil, it will last several weeks, though constantly under water.

BENN & WALKER, Kowai Mills, Leithfield, Canterbury.

Have two mills, worked by steam power; one engine of 18 working up to 25-horse power, and driving four of Price's large machines, two water-scutching wheels, and three arm-scutchers; the other, of 6-horse power, working up to 8, and driving two of Price's large machines, and a water-scutcher. They have tried Howarth's, Anderson's, and Williams' machines, but prefer Price's. Cutting the green leaf costs 12s. a ton. After passing the stripper, through which a flow of water passes, it falls on to a travelling band or table, from which one expert man can pick up from the four machines (but an ordinary boy cannot pick up from more than two). It is then wet-scutched under a barrel scutch of 4 feet diameter, with $2\frac{3}{4}$ inch beaters of rounded wood, revolving at a rate of 250 revolutions per minute. It is then soaked for twenty-five minutes, and bleached a fortnight or more, according to the weather. It is dry-scutched by an arm or Irish scutcher. The quality of the raw material is good. Of one variety it requires only $5\frac{1}{2}$ tons for one ton of fibre; of another variety, it requires as much as $6\frac{1}{4}$ tons of green leaf. The former is equal to any *tihore* flax that grows in the North Island. The other variety grows in the same locality, and is more luxuriant, reaching a height of 10 or 12 feet, and is of a darker green color. The best flax grows on a black peaty soil, with shingle about 2 feet from the surface, and is about 7 feet long. The flax can be cut every year, and the centre leaves are not taken; 30 cwt. of green flax can be passed through each machine during the day. Sold 100 tons at £20 and £21 15s to go to Boston, America. The actual cost of preparation is about £18 a ton, with 25s. for cartage to Lyttelton. The six machines employ fifty men and boys, and turn out 6 and 7 tons a week. The cost of the steam engine is £3 per ton. 113 lbs. of fibre lost 25 lbs. in dry-scutching (20 lbs. of tow, and 5 lbs. waste); 20 lbs. of tow, when hackled, yielded 15 lbs. of fibre, and 5 lbs. of tow. Floor mats made from the fibre have been in use at the hotel at Leithfield for two years, and are still in good condition.

ASHLEY GORGE MILLS, 38 miles from Christchurch.

Not visited, but Mr. DeBourbel states that they have a 20-horse power steam engine, working up to 30, which drives four of Price's one of Fraser & Tinne's, and three of Anderson's machines, besides three dry-scutchers, and a small turning lathe; and about 120 hands are employed, including wood-cutters for fuel for the engine. It requires 6 tons of green leaf to one of fibre, and the flax is passed through the stripper with a flow of water, and is taken away on a travelling band or table, two boys being able to pick up from the eight machines. It is washed by hand, and soaked for one hour, and scutched with an arm-scutcher. The cost of the preparation may be set down as follows:—

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|---|-----|-----|-----|-----|----------|
| 6 tons of green leaf, at 13s. | .. | ... | ... | ... | £3 18 0 |
| Stripping, soaking, washing, bleaching, and scutching | ... | ... | ... | ... | 8 5 0 |
| Pressing, baling, hooping, and covering | ... | ... | ... | ... | 1 8 0 |
| Steam engine | ... | ... | ... | ... | 3 0 0 |
| Delivery in Lyttelton | ... | ... | ... | ... | 2 0 0 |
| | | | | | £18 11 0 |

Besides wear and tear, and interest on capital.