

4. At Mr. Thomson's mill, Kaiapoi, and at other mills, there are travelling platforms for conveying the flax from the machine to the washers, by which a considerable amount of labour is saved. At the first named mill, the fibre, after being washed, was passed through two plain rollers of considerable diameter.

5. At Leithfield Mills, which Mr. Potts considers to possess the most complete plant in the whole Province, the travelling platform and the water scutcher are in successful operation. Hogsheads are also sunk in the water for the washers to stand or sit in, and where they are perfectly dry, and have not to stoop to their work so much as is usually done. The machinery is also well fenced off, so as to prevent accidents. The scutching and packing were done by contract; and rope is manufactured worth £56 a ton.

6. At Saltwater Creek Mills, where it is reported from experience that during the prevalence of the hot parching north-west winds a greater proportion of tow was made than during the ordinary or average state of the atmosphere.

7. Miles and Co.'s mill at Riverton, constructed to carry out Steart's mode of dressing flax, as protected by patent. Here the flax is tied in small bundles, and is placed in a bath for two hours and boiled: decomposed fish and chemicals in the bath are the agents used to soften the gum and prepare it for its expulsion from the fibre. After the flax has remained some time in the bath, and it acquires a certain condition, which appears satisfactory, it is submitted to the action of a break with several rollers, and, while so passing, it is kept wet with hot water; it is then spread on grass, and, while still in a damp state, or with the dew upon it, it is scutched in the ordinary way. This mode, it is said, entirely frees it from gum. At first the colour was defective; but subsequently that objection has been removed under an improved treatment. It is also said that flax prepared in this way was tested in London as against flax prepared in the ordinary way with the following result:—Steart's bore a strain of 162 lbs., while the other broke at 91 lbs.

8. *Dr. Florance's Solvent*.—This is a discovery by Dr. Florance, of Christchurch, and, if it can be judged of by the small samples forwarded through Mr. Potts, it is certainly deserving of consideration by flax manufacturers. Dr. Florance says that the expense will be from £1 to £2 per ton, according as the stripping is perfect or otherwise—the chemical results being in exact ratio with the mechanical. One great feature in favour of this appliance is that it does away with grass-bleaching and scutching, and saves much time, as it only requires from four to twelve hours for maceration previous to rinsing and drying, when it is fit for hackling and baling.

9. Dumerque's boiling and steaming process has also attracted the attention of the Commissioners, and the samples forwarded are certainly of a superior description; while the expense at which he says it is produced (about £10) places it amongst the cheapest of any of the processes now in use.

Mr. Graham, one of the Otago Commissioners, reports that he visited several of the flax mills in that Province, principally in the neighbourhood of Dunedin, and that there he found that the machines most in vogue were either those made by Price of Auckland, or others made on similar principles by the local manufacturers, of which the best seemed those made by Mr. Wilson, and Messrs. Kincaid and McQueen.

In none of the mills, however, did he see anything striking, or calling for any special comment, with the exception of the Messrs. Booth Brothers' establishment, at Blueskin. The machine in use by these gentlemen is one invented by one of themselves, and for which a patent has been taken out. Mr. Booth previously invented another machine, the principle of which was suggested by the Native mode of scraping the leaf with a pipi shell against the yielding surface of the thigh, and accordingly made the revolving scrapers to act against an india-rubber roller. Finding, however, that in practice the roller soon got fretted and worn by the action of the scrapers, he made a considerable modification of the machine; and now, in his present machine, india-rubber rollers are merely used for the purpose of holding tight the flax while it is being scraped against a number of small steel bars placed alongside each other in a box, like the key-board of a piano, and set in a yielding bed of india-rubber. There are two sets of revolving scrapers, and two sets of steel bars on elastic beds, enabling the leaf to be dressed on both sides, each leaf being split and the two halves being put into the machine separately; and the result, as respects softness, flexibility, and colour, appeared to be satisfactory. After the dressing, the crushed leaf lay for a short time in running water, had a slight rinse with the hands, and then hung on wires to bleach and dry. Before it was taken off the wires, each hank was beaten against the supporting post, and no scutching or hackling process other than this was attempted.

Owing to the difficulty of obtaining suitable india-rubber rollers Mr. Booth was reduced to the necessity of using some with very slight spindles taken from the ordinary American wringing machines, and was consequently only able to feed half a leaf at a time; but he has now obtained stronger rollers from England, and the machine which he is now supplying he reports as strong enough to take in four halves at a time, equal to two full leaves, thus doing nearly double the work of any other machine now in use. The price at which this new machine is supplied is £60.

Messrs. Pownall, of Manawatu, adopt a process peculiar to themselves, which is protected by patent. Mr. Kebbell visited this mill, and his description of it is as follows:—

The raw flax is run from the wharf by tram over weighbridge, and placed on end. The leaf is then split by hand commencing at the point, and passing each half by a piece of iron fixed on the edge of a rail, scraping off the unfixed gum, which drops into a receptacle. The split flax is passed through side of building handy for each machine. After passing through the machine it goes directly to the wires to dry. When dry or nearly, comparatively to hot-air drying, it is placed in heap under a shed for about three weeks to mellow. The points escaping uncleaned from machine are then hackled, divided into qualities, and baled. Although so little labour is expended, the flax from this mill is softer than the produce of any other mill I have compared it with. The scutching machine would greatly improve the appearance; but this mill was started when prices ruled low, and the owners believed it was waste of time to do more, as the scul and dust would separate in the unavoidable operation it must go through at home in manufacture. But at the present prices they intend to go in for colour, softness, and gloss. The principle on which the machines act is, to scrape the leaf on both sides, not beat it on the lower feed-roller. The machine has two scraping rollers, fifteen inches