

trated by a good wood-cut engraving—a luxury which we can seldom afford to indulge in.

The Scutch Mill referred to has since been destroyed by fire, with a large quantity of flax it contained. It will, no doubt, be soon re-built and in active operation again, as everything the members of this firm engage in is prosecuted with energy:—

“ Everything connected with the progress of the flax industry in this country, will be regarded with interest by all who can lay just claim to the possession of patriotic feeling, and we are sure that all such will gaze with pride and pleasure at the engraving which accompanies this article. It is a faithful picture drawn by our own artist on the spot, of the Linen Mill recently put into operation by the Streetsville Linen Manufacturing Company. This Company was formed by the junction of two enterprising and well-known firms, Messrs. Gooderham & Worts of Toronto, and W. D. Perine, Brothers of Doon, and other places westward. Though the building which forms the chief object in our engraving presents a most imposing appearance, the principal outlay of capital has been for what is out of sight, viz.: the elaborate and costly machinery, with which the interior of the Mill is fitted up. Some idea of the magnitude and importance of this enterprise will be formed when we state that already no less than \$100,000 have been invested in it. The Flax Works consist of a Scutch Mill, on the opposite side of the river from the building which figures so conspicuously in our engraving; connected with which are out-door vats with capacity for retting 25 tons of flax at once; the Linen Mill, consisting of a main building 50×75 feet, and a wing 40×60 feet, both being five stories high; a separate brick building for generating the steam with which the establishment is heated in winter; a rope walk and some smaller offices. From 70 to 100 hands are ordinarily employed about the works, but in spreading time a much larger number is required. All the process of flax dressing are carried on from the retting of the straw to the preparation of the finest description of fibre. Certain articles of linen manufacture are also produced. About 900 tons of flax were obtained last winter in the immediate vicinity of the mill. Most of this was bought with the seed on, at \$14 per ton. The crop last season was not a very even one as to amount of yield, varying from 1½ to 3½ tons per acre. In the farming county round Elora, Maryborough, and Peel, the usual average is about 3 tons per acre. Scutching was commenced at these works in November last, and the linen manufacture in March. The quantity of flax obtained in the neighbourhood is only about one-fourth of what is required to carry on the mill. There is, therefore, pretty wide scope yet for increasing the acreage of flax in the adjacent county. The additional material required at the mill has thus far been obtained from Perine Brothers in the shape of “long-live fibre,” as it is called.

A brief account of the operation carried on at these works will doubtless interest our readers. First there is the retting process, which in favourable weather takes from five to eight days. Next the retted fibre is spread out to dry. This takes

from three to ten days, according to the season and state of the weather. The dried fibre is then broken and scatched. For breaking, “Randall’s Flax Break” is used, a simple machine in which the ordinary roller breaks are so adjusted as to do the work without risk of catching the hands of the attendants. Revolving scutch-knives are used, and moveable perpendicular boards, against which the bunches of flax are held while in contact with the knives. Next to the scutching comes the hackling,—a sort of combing process which separates all the refuse material and inferior fibre, leaving on an average about 50 or 60 per cent. of long fibre. One hackler is constantly busy preparing “long-line flax.” After it leaves his hands, it goes to the spreading machine, then it is subjected to the first and second drawing, next it passes through the roving-frame, then the spinning-frame, when its preparation as warp is completely finished. Tow of various grades is left after hackling. The best quality is first dusted in a kind of cylinder; then sorted; next it goes to the picker, and from him to the lapper who laps it on to laps for the cards; next it goes through the carding-machine from which it passes to the drawing-frame which puts it into webs or belts; then it is passed to the speeder which lays it up and puts it on bobbins; next it goes to the spinning-frame and from that to the quiller which puts it on to a number of quills, each of which in turn goes into a shuttle, is put into a loom and wove. At present the mill is engaged in weaving the double-webbed linen out of which seamless bags are made. Each of these is 1½ of a yard in length. The bags are cut off by machinery and hemmed with a sewing-machine, after which they are pressed and baled, 100 being put in a bale. Three bales per day are turned out, or from 1800 to 2000 per week. Their wholesale price in the market varies from \$10 to \$15 per bale. Counter-twine is also manufactured. This passes through all the stages that have been mentioned except weaving. Instead of being woven, it is formed into balls by a very ingenious piece of machinery invented for the purpose. Cordage is also made. This requires a good quality of tow. The poorer grades are made into rope of various thicknesses. After passing through the processes already described, it is put through the spinning-jenny, the strand-former, and the laying machine. Afterwards it is dressed on the rope-walk and coiled ready for the market. At present only about 300 lbs. of rope per day is being turned out, but the mill has capacity for making from 600 to 700 lbs. The cordage manufacture is not yet fully under way. When everything is in complete operation, all the material yielded by the flax fibre will be worked up on the premises, except the refuse tow which is sold to the paper makers, and used by them in the manufacture of certain kind of paper.”

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If hydrogen gas be breathed for a few moments it has the curious effect of changing the voice. The effect very soon disappears.

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At Amiano, in Italy, petroloum has been extracted for two hundred years. The supplies from this source were used for lighting the cities of Parma and Genoa.—*Mechanics’ Magazine.*