

and Urbain set to work to overcome the defects, and in course of time the process was said to be perfect, and the results all that could be desired. A spinning mill, situate at Louviers, near Rouen, was acquired, in which appliances were put down for preparing the fiber according to the process just described. There was already machinery in the building suitable for spinning the fiber into yarns, capable of an output of about 10 tons per week. It is unnecessary to describe the arrangement of the works, beyond stating that there were two main buildings, each of two stories, and each about 130 feet long by 30 feet wide. One contained the carding and spinning machinery, and the other what may be termed the converting plant. On the ground floor of the latter was the steam digester or kier, which was 8 feet high by 6 feet in diameter, and capable of containing about half a ton of dry ribbons. Besides this, there were washing tanks and large circular vats for the treatment of the fiber after it left the digester.

The author visited these works three times during the years 1884-5, and although there were some slight variations in the treatment, the principle followed was in all cases the same. Upon the occasion of the author's last visit, the ribbons containing the fiber were first placed in the digester, and boiled by steam heat under pressure with from 8 to 15 per cent. of caustic soda, according to the nature of the rhea. After being boiled for from three to four, or even five hours, a brown liquor resulted, which was drawn off, and the ribbons were transferred to a tank of cold water, where they underwent a thorough washing. They were then subjected to another boiling with a reduced quantity of caustic soda, after which the resulting fibrous mass was submitted to saponaceous treatment. The fiber, now fully developed and known as filasse, was then washed in pure cold water, and then placed in a slightly acidulated bath. Another washing in cold water completed the process, and the fiber was then ready for the spinner. The most important factor in the success of the Fremy-Urbain process was said to be the saponaceous treatment, which may be regarded as the crowning feature of the whole. Upon the author's second visit to the works, chlorine was used in the preparation of the fiber subsequently to the caustic soda treatment. This agent had to be employed in consequence of the difficulty of getting rid of the chlorophyll or coloring matter of the plants. On the author's third and last visit, Professor Fremy stated that he had long been of opinion that the use of chlorine was prejudicial to the fiber, and that he had endeavored to supersede it by some innocuous agent. Such an agent he had then recently discovered, and saponification was substituted by him for the chlorine process. By this means the professor appeared to have eliminated from the Fremy-Urbain process the last element of uncertainty, and the last chance of possible danger to the fiber.

The author saw several charges of ribbons treated by this process, and some of the resulting filasse put through the mill and worked up into yarns. Upon his last visit of inspection the author sent a small bale of the fiber to the late Sir Joseph Lee, of the firm of Tootal, Broadhurst,

Lee & Co., of Manchester, Sir Joseph being an authority upon fibers, and having upon one occasion accompanied the author to Louviers. Sir Joseph took a great interest in the Fremy-Urbain process, and his object was to have the fibers spun into yarn in one of his own mills. Sir Joseph's views and opinions are best given by the following letter which he wrote to the author acknowledging the receipt of the fiber:—

56 Moseley Street,

Manchester, March 18, 1885.

MY DEAR SIR,—I thank you for your letter of the 16th inst., and also for the samples of ramie in the various stages of development. The change in the Fremy process is undoubtedly a great gain in the cleansing of the fiber. From what I see, the problem of making the ramie a commercial article is solved. The important question of producing yarn from the filasse is yet unsolved—that is to say, the machinery for cotton, flax, or wool cannot be employed on ramie in an economical and consequently a profitable manner. We have to look to the mechanical constructor to provide machinery for its treatment. As I have said elsewhere, vast sums have been squandered in the attempt to produce yarn by machinery quite unsuited for the purpose. An appeal must now be made to inventors to take the thing in hand. M. Favier's opener*—from the small sample sent me—will not fill the requirement. The whole process of spinning must be studied so that the waste at present made is minimized. Any further information I obtain I will let you have from time to time.

I am, yours most truly, J. C. LEE.

P. F. Nursey, Esq.

(To be continued.)

BETTER GOODS.

There is a marked tendency towards an increased demand for better goods, the result no doubt of the increasing prosperity of the last year and a half. This demand is not only for goods of finer finish and appearance as might have been expected from the cry for cheapness, but is also for quality, durability and fastness of color. We often hear shoppers in retail stores complain that they cannot secure goods which have the wear or appearance of twenty years ago. Such complaints are having an effect on the market, and sooner or later we will have a revolt against the low-grade goods which some firms are producing. It is stated that the departmental stores of New York are now falling behind the single-line houses because the public has got cheapness inseparably associated in its mind with the departmental store, and when prepared to pay a good price for an article goes to a house which it has been accustomed to look upon as dear, perhaps, but reliable as regards quality. The same tendency is at work in Toronto, and many instances might be given.

There are at least a dozen woolen mills in Canada which we could name which we have every reason to believe have yet to work their first pound of shoddy. Per-

*This refers to an improved detail in spinning machinery invented by M. Favier, not the M. Favier who invented the decorticating system formerly described.