Machinery and Appliances.

THE PREPARATION AND SPINNING OF BARKCLOTH AND WASTE YARNS. II.

In our first article on this subject, which appeared in The Textile Mercury of June 29th last, we dealt with the functions of the willow and the scraper, and described these two machines, belonging to the series designed for this system by Messe. Platt Brothers and Co., Ltd., Oldham. The next machine calling for attention is the Breaker Card, shown in fig. 1.

The economical production of waste yarns imperatively requires that the number of processes, or passages of the material through the machine, should be reduced to as few as possible. This in turn requires that the construction and arrangement of every machine should be such as will advance the object in view as much as possible, namely, the attainment of regularity in the disposition of the material, whether in the lap, the breaker card lap, or at subsequent stages. Keeping this object in view and remembering the nature of the material, the makers have provided the breaker card with an extended creel and lattice for the reception of two laps to run off together, so that by commencing the doubling process at this early stage the object sought may be attained all the earlier, the inequalities of one tending to correct those of the other. This feature is prominently shown in our illustration. Passing from the lattice, the material is received by a pair of feed rollers covered by a patent metallic wire and delivered to the take-up, which is also covered by a similar wire and supplied with two knives. These in their combined action extract a great amount of dirt. The material next passes to the cylinder, which is 50in. in diameter and 50in. across the face. Another notable feature of this card is the increased number of clearers and workers that are brought into operation, besides the usual dirt roller, the fancy, and the fancy stripper. This has been accomplished by a special construction of the framing. As will be obvious the improved arrangement greatly increases the carding power and the productive capacity of the machine.

There are two ways of dealing with the material as it leaves the doffer, from which it is stripped in the ordinary manner. The ordinary method would be to coil it in a can and form it into a lap on the Derby doubler, brought and passed through this machine, making the whole into laps half the width of the finisher card. Knowles' powerful compression rollers are used, and by their means a very solid lap is made, weighing from 15 to 20 lb. each.

The Finisher Card.

We now come to a point where the system diverges greatly from the methods usually followed in the manipulation of cotton, and passes over to that of woolen. This is seen in the finisher card, which, instead of depositing its product in the ordinary manner in a sliver, is fitted with a condenser, as will be seen in our illustrations. The condenser, it may not be superfluous to remark to those of our readers who are only acquainted with the cotton system, divides the sheet of carded material, as it leaves the cylinder, into a large number of ribbons or strips, rolls each into the form of a

Fig. 1.—BREAKER CARD.—Messes. Platt Brothers and Co., Limited, Oldham.

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THE PEREPARATION OF RAMIE FIBRE.

MACHINES AND PROCESSES.

The New Garden Bulletin for November contains an article on the subject of the preparation of ramie fibre in connection with the exhibition held at Paris this year of machines and processes invented to render the fibre available for commercial enterprise. The following is an extract from the article in question:

"In connection with the Paris Exposition Universelle, 1893, a special series of trials was held of machines and processes for desintegrating manue (Exposition Universelle: Essays spéciaux de machines et appareils pour la décomposition du manue),"
and at the request of the India Office, and in con-

clusion of similar action taken last year, Mr. D. 
Morriss, F.L.S., the Assistant Director of Ix- 
and, was appointed to represent the country, 
and to prepare a report of the results. This 
report contains the following information.-
A series of interesting trials of machine and pro-
cesses designed for the denouement of vines 
was held by the French Minister of Agriculture 
in Paris in 1898, and a report on the subject, which I had 
the honor to prepare for the information of the 
Secretary of State for India in Council, was 

These trials were resumed this year as an integral 
part of the Committee's report of the agricultural 
Exposition Universelle, and opened on the 
third September last. The jury consisted for 
the most part of the members of the Commission of 
1888. The attendance of foreign representa-
tives was considerably larger than in 1888, and 
the greatest interest was manifested in the proceedings 
by a large concourse of visitors.

The machines and processes this year were 
conducted to those which had been shown as a regular 
part of the general exhibition. As will be seen 
later, all the competitors were French, and this, in 
i spit of the fact that more than a dozen machines 
and processes have lately been designed in this 
country, which are now in course of being care-
fully tested.

It was a noticeable feature throughout the 
proceedings this year that no matter whatever 
was attached to the decoration of dry vines 
was in evidence. Among the machines and 
processes shown, the inventors of which were 
engaged in the results obtainable with green stems, and in order to make 
them still more applicable to field operations, some 
cylinders and beaters with a reverse action 
attached. This feature allows the stalks to be 
drawn when about seven-fifteenths of a length, and of 
the other end being cut to complete the operation. 
The disadvantages of this method, as regards time 
and output of ribbons, is more fully discussed under 
the other processes (in the next issue). During the 
trials this machine assured a considerable loss of 
ferns, carried away with the pile and wood. In 
the first trials 10,000 rings of green stems 
without leaves were passed through the machine in six 
minutes. The result was 1,200 kilos of wet ribbons 
of moderate quality. This would be at the rate of 
180 kilos of wet ribbons per day of 10 hours, or of 
98,600 (about 155) of dry ribbons for the same period. 
In the second trials 10 kilos of stems with leaves 
were put through the machine in 10 minutes. 
The result was 1,200 kilos of dry ribbons of moderate 
quality. This would be at the rate of 
68,000 kilos of wet ribbons per day of 10 hours, or of 
60,000 (about 140) of dry ribbons for the same period.

Taking into consideration the cost of this machine 
and the power necessary to drive it, the out-turn, 
or more to be small to prove remunerative, 
and the machine in its present form is useless. 
Better results than these have been obtained by 
denouement machines by hand.

Pavier Machine—Two machines were shown 
by M. P. de Pavier, whose name is well known in 
connection with the same industry. Machines 
No. 1 and 2 were designed for the denouement of 
green stems, while No. 2 was designed for the 
treatment of dry stems. In this report the 
remains supplied only with the machine No. 1. This machine 
was set at a high cost, 80 cm. broad, and weighed 980 
kilos. The price was not stated. It required 
be stopped. The time occupied in these steps 
was not counted. The wet stems yielded by 10 
kilos of stems weighed 2,000 kilos. This would 
be at the rate of 700 kilos of wet ribbons per day 
of 10 hours, or 700 (about 160) of dry ribbons for the 
same period. In the second series, stems more or 
less with leaves weighing 70,000 kilos, were 
passed through the machine in 18 minutes. They 
risked 120,000 kilos of wet ribbons. This would 
be at the rate of 700 kilos of wet ribbons per day 
of 10 hours, or 700 (about 160) of dry ribbons for the 
same period.

The ribbons in both cases were well cleaned. 
They appeared to be no waste. The debris under 
the machine consisted almost entirely of wood and 
leaves.

These results I regard on the whole as satisfac- 
tory.

The somewhat intricate character of the various 
parts of this machine would be against its general 
use by planters in the colonies, but there can be 
but little doubt it is a great advance on most other 
rumine machines now available. It might, however, 
be adapted for use in central factories or salines, 
where bulk labour would be obtainable and for 
this and similar purposes the Pavier machine 
may be recommended.

Michotte Machine.—The Michotte machine, called 
"la Francaise," at first glance resembled the 
Bachler and De Landebuer (small) machines. It 
was driven by piston power, and consisted of a pair 
of large rollers, each furnished with holocline 
grooves running their entire length. The large 
rollers first crushed the green stems and then 
30. They were also cut trans-
vestly (probably by the holocline grooves) and 
rendered useless.

This machine was in the present state, possesses no 
merit whatsoever. It is difficult to realise under 
what circumstances it could have been entered for 
trial.

De Landebuer Machine.—M. de Landebuer 
exhibited two machines. The small machine was 
very similar to that exhibited by him in 1898, but 
meanwhile it had been subject to many 
modifications. It was driven by steam power, 
and required two men to 
attend to it. It had a horizontal feed-plate, and 
consisted of a series of rolls and beaters which 
were propelled by a horizontal or 
vertical screw and driven by means of a 
leverage. These were then withdrawn and the 
other end put in and cleaned. It will be 
noted that each of these machines had to be 
prepared for the machine before it was cleaned.

This involved a consider-
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Dec. 31, 1889.

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