

No. 763,170.

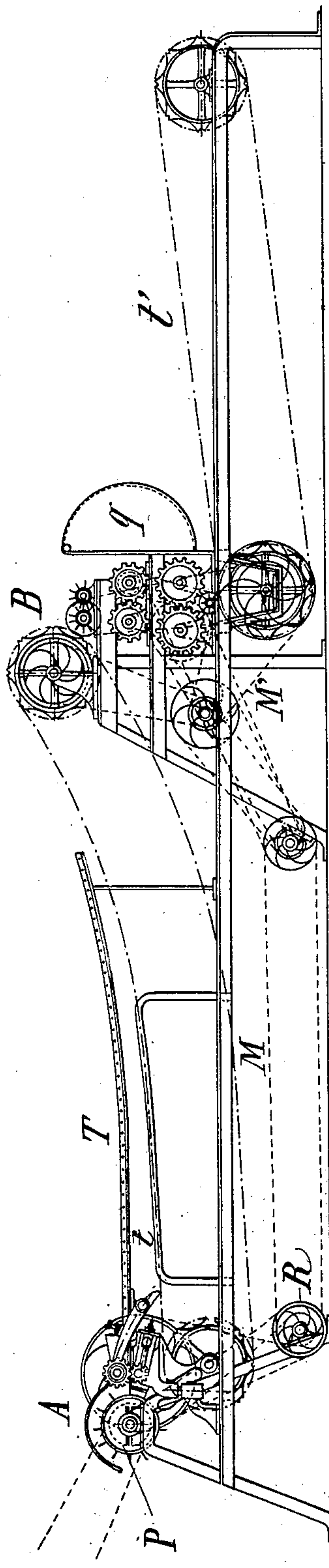
PATENTED JUNE 21, 1904.

P. P. FAURE.
DECORTICATING MACHINE.
APPLICATION FILED MAY 14, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES :

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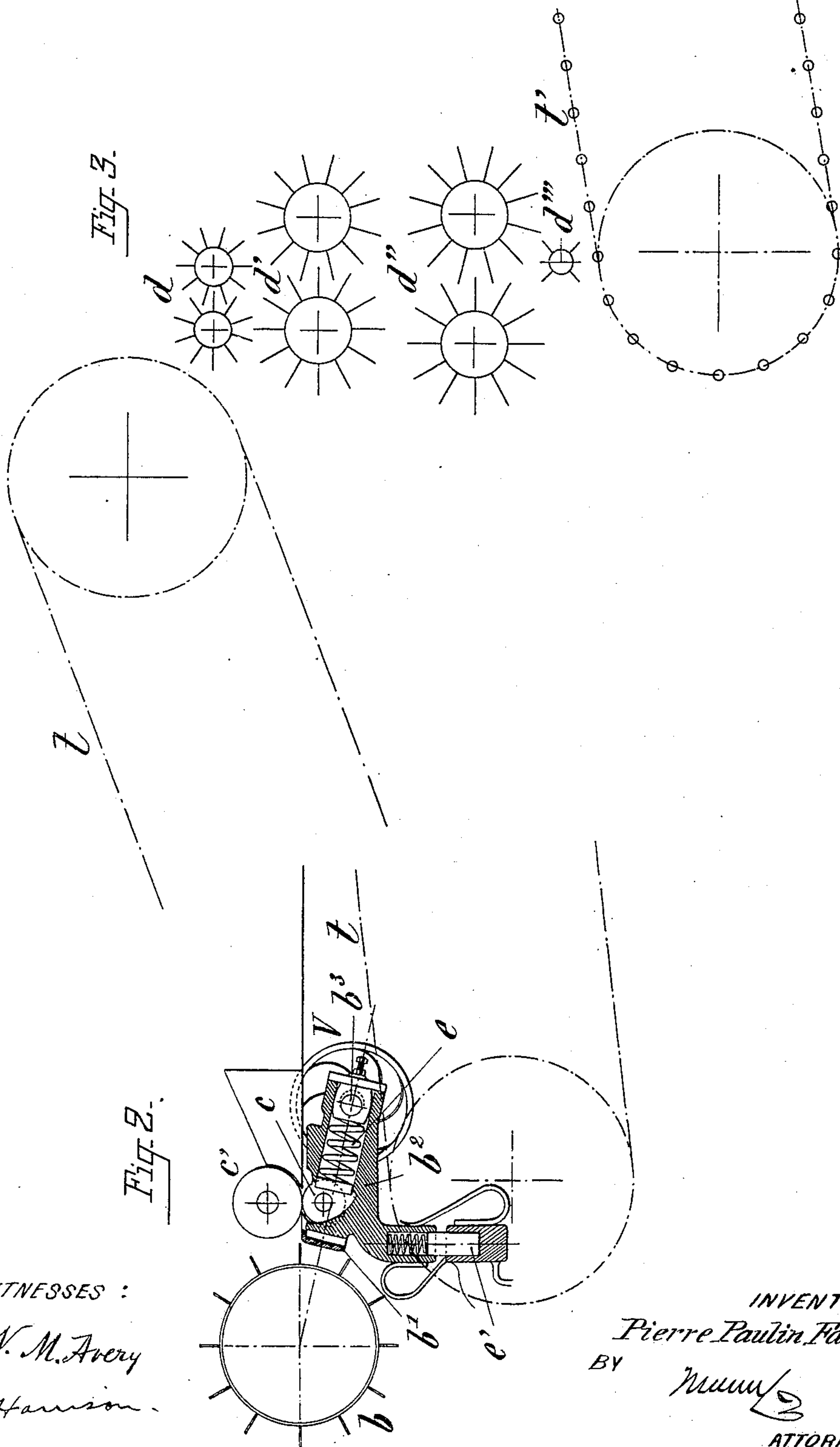
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UNITED STATES PATENT OFFICE.

PIERRE PAULIN FAURE, OF LIMOGES, FRANCE.

DECORTICATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 763,170, dated June 21, 1904.

Application filed May 14, 1902. Serial No. 107,329. (No model.)

To all whom it may concern:

Be it known that I, PIERRE PAULIN FAURE, builder, of 21 Placedu Champ de Foire, Limoges, Haute-Vienne, Republic of France, have
5 invented Improvements in Decortivating-Machines, of which the following is a full, clear, and exact description.

This invention relates to improvements in the decortication of ramie and other textile
10 plants and leaves.

The improvements consist, essentially, in first subjecting the stalks of the ramie to the action of a preliminary breaker and afterward to that of a purifier or finisher, in which the
15 stalks are passed between different pairs of pallet-drums so disposed that the pallets of the two drums of each pair will intermesh, the several pairs of drums being rotated at different speeds, so as to exert a scraping action upon the fibers and so entirely free them
20 from all foreign matters adhering thereto or entangled therewith. These two apparatus may either work in conjunction or separately. In the first case they would constitute a continuous machine, receiving at the ingoing end
25 the stalks to be decorticated and deliver the decorticated fibers or stricks at the opposite end completely purified.

The accompanying drawings illustrate by
30 way of example a continuous machine for carrying out this improved method of decortication.

Figure 1 is an elevation of the entire machine. Fig. 2 is a detail diagrammatic view
35 of the preliminary decortivating-machine. Fig. 3 is a detail diagrammatic view of the finisher or purifier.

The same letters of reference denote like parts in the several figures.

40 As shown, the apparatus essentially comprises a primary apparatus A for effecting a preliminary decortication, which is driven from any suitable source of power applied to a pulley P, and a second finishing or purifying apparatus B, the stalks after having been
45 subjected to the action of the first apparatus A being conducted, by means of a conveyer *t*, to the second apparatus B and the completely-purified stalks being conducted away from
50 the latter by the conveyer *t'*. The first appa-

ratus A (shown more particularly in Fig. 2) essentially comprises a pair of feed-rollers *c c'*, a beater-cylinder *b*, and breast *b'*, provided with two spring-abutments *e e'*. The breast *b'* is made in one with a metal frame *b²*, movable about an axis *b³*, having two spring-abutments *e e'*, the one *e* being radial both to the axis of beater *b* and the center of oscillation of breast *b'*, thus permitting of the latter receding from the beater *b*. The other, *e'*, is
55 arranged vertically and permits of the breast *b'* receiving a constant vibrating movement while the apparatus is in work. The exact adjustment of position of the breast *b'* with relation to the tips of the blades of beater *b* is
60 effected by means of an eccentric shaft, upon which is keyed the hand-wheel V. The motion transmitted to pulley P, which is keyed upon the beater-shaft *b*, is transmitted, by means of band-pulleys, to the return-pulley
65 R and feed-roller *c*, which is geared with the feed-roller *c'*.

The finisher or purifier B, Fig. 3, consists of a series of intermeshing pallet-drums, of which the first pair, *d*, conduct and retain the
75 stalks delivered to them by the conveyer *t*. The second pair, *d'*, cleans the stalks by a vigorous scraping. The third pair, *d''*, exerts a slight drawing and at same time a cleaning action upon the stalks. In certain cases a pallet-roller *d'''* may be disposed beneath the last pair of drums *d''* for the purpose of assisting
80 in the laying out straight of the cleaned stalks upon the conveyer *t'*. The drums of each pair are geared together, as shown in Fig. 1, 85 in addition to which the several pairs are respectively driven, by means of belting or toothed gearing, at different speeds, according to the work they have to perform. A sheet-iron screen *g* receives the pellicles and other
90 debris thrown off by the pallets. The number of pairs of pallet-drums may be increased or reduced, according to the work to be done.

Motion is transmitted by band M, Fig. 1, from apparatus A to apparatus B and thence
95 to the conveyer *t'* by the band M'.

The breadth of the machine may be as great as convenience will admit of.

The operation of decortivating is effected as follows: The stalks to be decorticated are
100

placed upon the table T and pass endwise through guides provided in the apparatus A to the feed-rollers *c c'* to be submitted to the action of the beater *b* and breast *b'*, whereby
5 the woody portion of the stalks is immediately broken, besides which, owing to the surface speed of rotation of the beater-drum being considerably higher than the rate of feed of
10 the stricks, a drawing action is exerted upon the woody portion. Moreover, the breast *b'*, owing to its resting on spring-abutments, receives a constant vibratory movement, which, in combination with the tractive effort exerted
15 by the beater-pallets, produces a stripping action having for effect to free the fibers from their pellicle and extraneous matters. The separated matters, consisting of the woody portions, pellicle, gummy and other matters,
20 are projected from the machine by the centrifugal force of the beater-drum, and the fibers on leaving the first apparatus fall onto the conveyer *t*, which delivers them automatically to the finisher or purifier B. In this
25 machine the fibers are subjected to the action of several sets of pallet-drums, which complete their purification by removing the particles of wood and other foreign matters which may have remained entangled, after which the
30 fibers are delivered to the conveyer *t'*, by which they are carried away and from which they are taken in a perfectly-pure condition similar to china-grass.

This system of machine is capable of treating as many stalks as can be fed in at a time, 35 thus furnishing the highest possible rate of production and without any waste of fibers. Moreover, the product obtained is of a much superior quality, so that the machine produces at once both quality and quantity. 40

The herein-described machine may be varied in form and dimensions, and the accessory arrangements may be modified to suit the nature of the application.

I claim— 45

A decorticator for ramie and the like, comprising rolls between which the stalks are fed, a beater-wheel for breaking said stalks and separating the fiber from divers coarse impurities, a shaker-frame for continuously agitating said stalks while the same are being 50 operated upon by said beater-wheel, a conveyer for removing the fibers, a plurality of drums arranged in parallel consecutive pairs and provided with intermeshing members, and 55 means for rotating said pairs of drums at different speeds for the purpose of scraping said fiber.

The foregoing specification of my improved method of and apparatus for decorticating 60 ramie and other textile plants and leaves signed by me this 25th day of April, 1902.

PIERRE PAULIN FAURE.

Witnesses:

E. DELARBRET,
P. THOMAL.