No. 778,351. PATENTED DEC. 27, 1904.

E. C. CREPY & L. FREMAUX.

HACKLING MACHINE.

APPLICATION FILED DEC. 5, 1901.

2 SHEETS—SHEET 1.

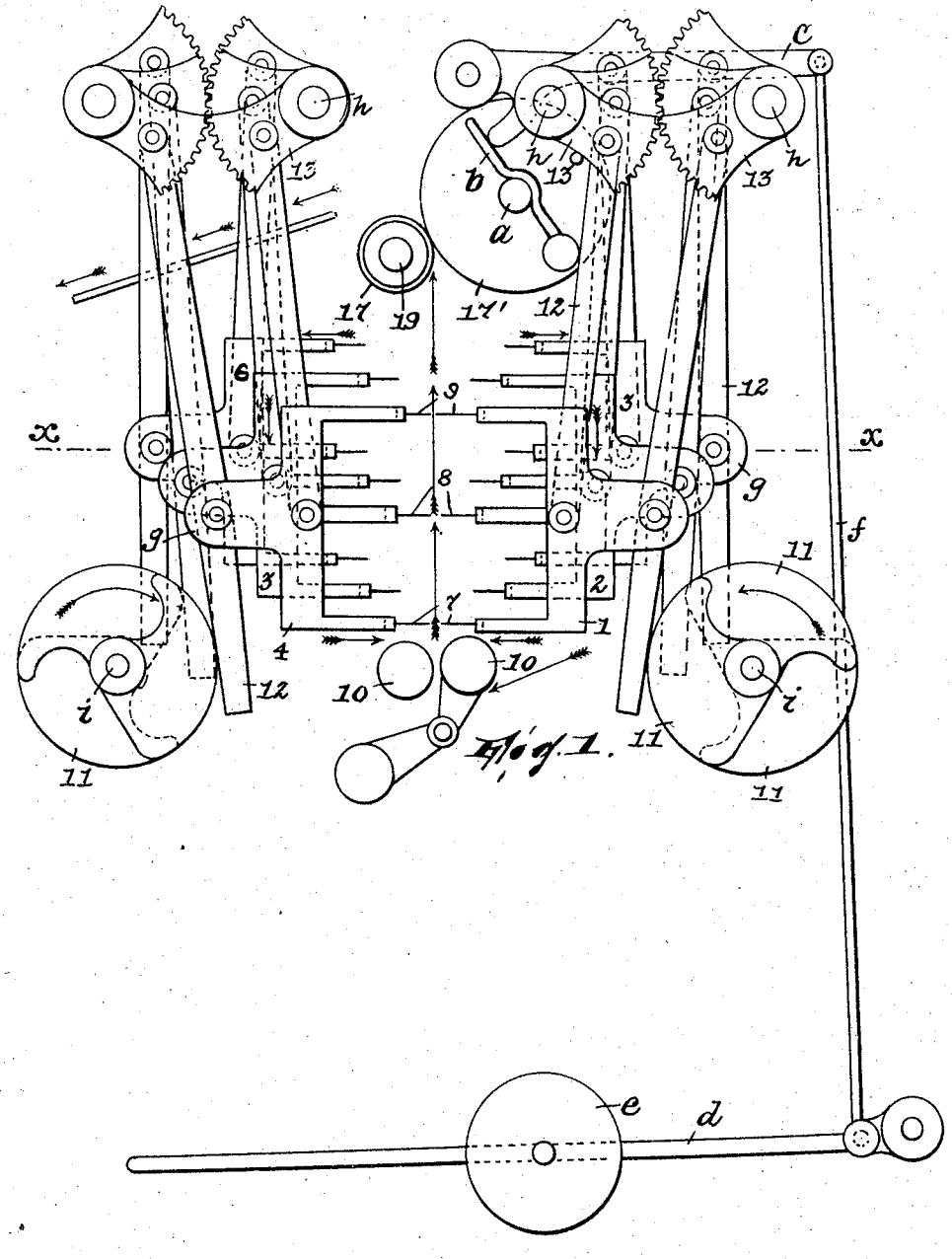


Fig. 1.

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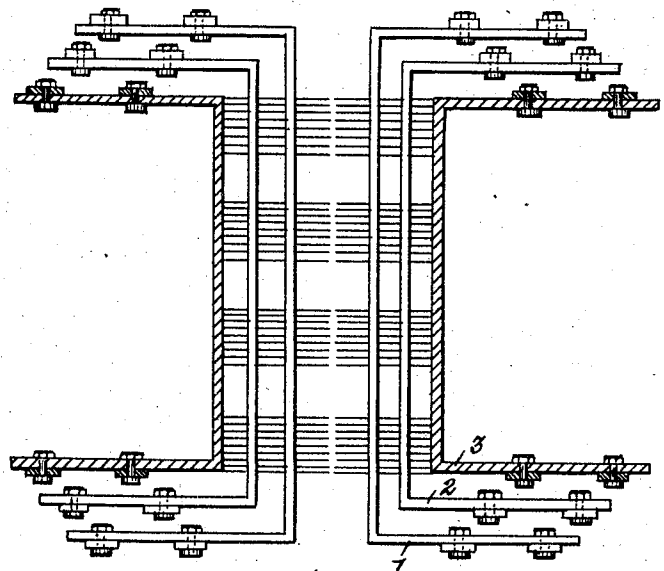


Fig. 2.

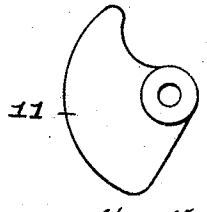


Fig. 3.

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No. 778,351. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

EDOUARD CHARLES CREPY AND LOUIS FREMAUX, OF BRUSSELS, BELGIUM.

HACKLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 778,351, dated December 27, 1904.

Application filed December 5, 1901. Serial No. 84,720.

To all whom it may concern:

Be it known that we, EDOUARD CHARLES CREPY and LOUIS FREMAUX, industrials, citizens of the French Republic, residing at 36 Rue du Tyrol, Brussels, Belgium, have invented a new and useful Hackling-Machine; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention consists in an improved mechanism for combing and drawing fibrous material, such as jute, hemp, and the like, said mechanism being characterized by the fact that it is arranged so that the combing and drawing are effectuated simultaneously on both sides of the material and in such manner that the opening out of the material incident to the combing and drawing is done completely and uniformly and without damage to the material.

Our invention will be fully illustrated in the accompanying drawings, wherein—

Figure 1 is a diagrammatic view of our invention, showing the same in side elevation. Fig. 2 is a sectional view of the combs, taken on the line $x\,x$ in Fig. 1; and Fig. 3 illustrates one of certain cams.

The essential or principal elements of the machine are certain comb-like bodies arranged on both sides of the material and opposite to each other, corresponding comb-like bodies being arranged so that in operation they each of them follow a certain definite path of movement, which in the present case has substantially the form of a rectangle. They first approach each other and the material, projecting their comb portions into the latter. Then they move together lengthwise of the material, then recede from it in opposite directions, and finally move back to the starting-points in a direction substantially parallel to the material.

The material is fed along and kept properly disposed by a roller 17 and devices 10, the latter of which constitute a tension contrivance. The roller 17 and the devices 10 are spaced from each other and act to keep the portion of the material that is between them fairly taut. This may be adjusted by a pressure-roller 17′, against whose axle a presses a fulcrumed brake b, the brake being in turn pressed upon by a projection of a lever c, which is connected by a connecting-rod f with another lever d, carrying an adjustable weight e.

There are three pairs of frames 1 and 4, 2 and 5, 3 and 6, in which the combs are mounted, the frames in each pair being opposed to each other and situated on opposite sides of the material. Each frame carries three tiers of combs, (marked 7, 8, and 9.) Corresponding tiers on the same side of the material are arranged successively above each other, and all the tiers in said series are preferably uniformly spaced. Each frame is provided at its ends with a rearward projection g. Said projections have pivotally connected to them links 12, each of which is pivotally connected at its upper end to one of a pair of intermeshing sectors 13, which are fulcrumed at h. By virtue of their link connection with the sectors an in-and-out movement of the frames relatively to the material is permitted, and upon turning the sectors up and down a vertical movement may be imparted to the frames. In order to produce the in-and-out movement of the frames, and consequently of the combs, one link in each pair is extended downwardly so as to be in the path of cams 11 on a cam-shaft i. A novel means being herein described whereby the combs may be caused to follow a given course of movement, we have not shown a means for rotating the cams 11 and oscillating the sectors 13. Such means constitutes a feature of our copending application Serial No. 111,618.

The material being fed along and kept taut by rollers 17 17′ and devices 10 and cams 11 on shafts 2 caused to rotate and sectors 13 to oscillate, the cams may be made to periodically engage the extended portions of links 12, causing the latter, and consequently the combs, to move inwardly and outwardly, while the sectors will effect the up-and-down movements of the combs. These movements may be made to alternate with each other as respects any one comb-frame, with the result that the combs will follow a substantially rectangular course, moving first up through the material, then back disengaging from the ma-

terial, then down clear of the material, and then forward into reëngagement with the material.

As shown in the drawings, two sets of cams may be provided to give the desired motions to the combs on both sides of the material, one set of cams for each set of comb-carrying frames.

Having thus fully described our invention, what we desire to secure by Letters Patent and claim is—

The combination of a series of frames, a series of combs carried by said frames, means for maintaining the material to be combed in operative contiguity to the combs, pairs of intermeshing sectors, links operatively connecting each pair of sectors with one of said frames, and a series of rotating cams, some of said links being adapted to engage said cams, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EDOUARD CHARLES CREPY.
LOUIS FREMAUX.

Witnesses:
CHARLES HOWARD,
GREGORY PHELAN.