No. 620,747. Patented Mar. 7, 1899.

E. DELETTE.

COMBING MACHINE FOR TEXTILE MATERIALS.

(Application filed Feb. 25, 1898.)

(No Model.)

FIG. 2.

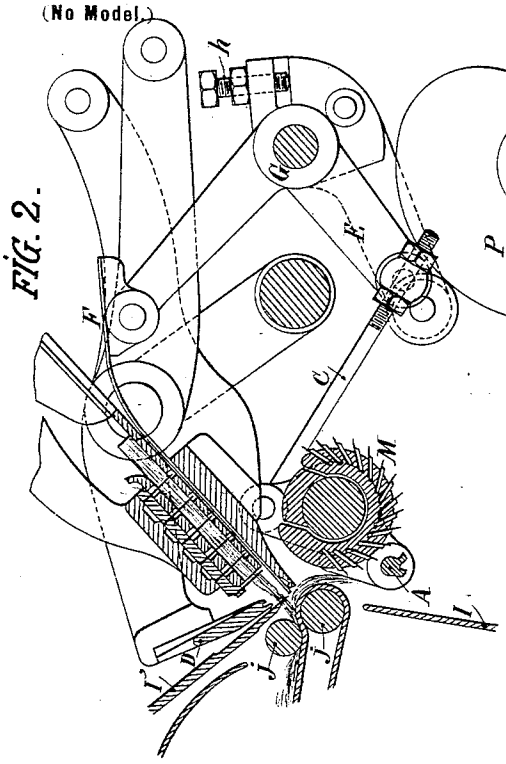


FIG. 3.

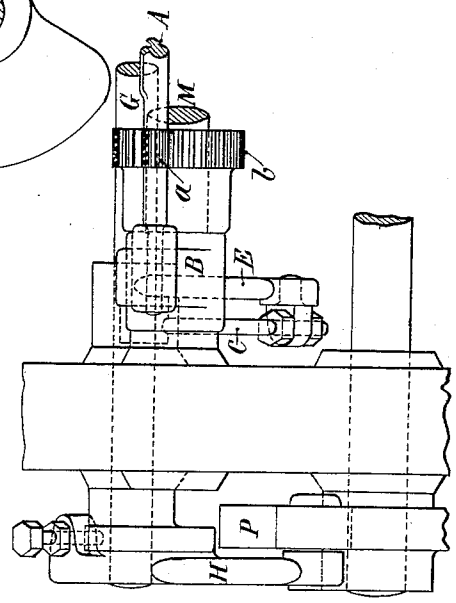


FIG. 1.

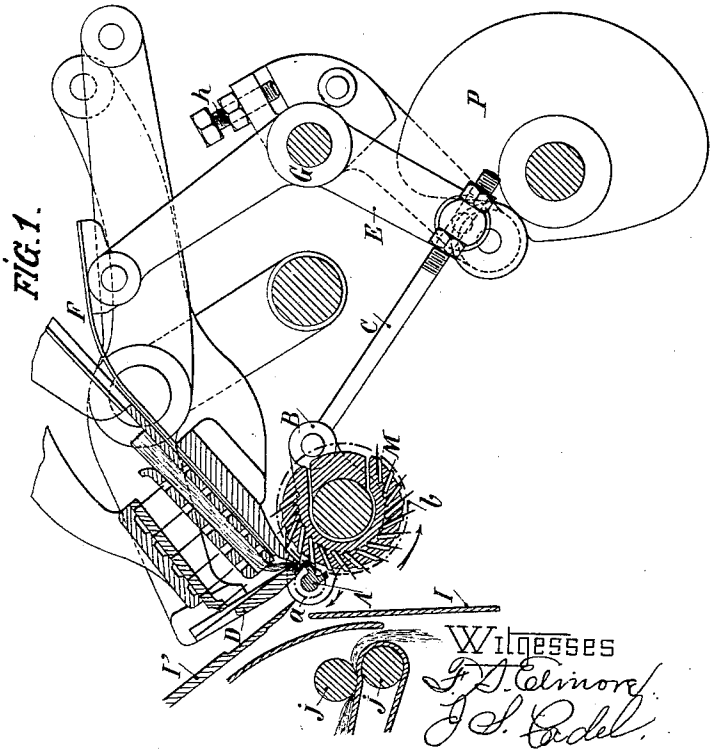


FIG. 5.

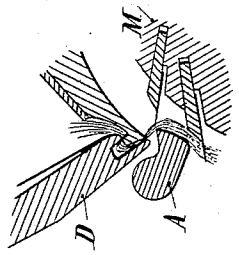
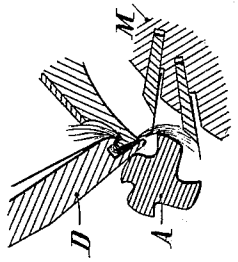


FIG. 4.



Witnesses
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EUGÈNE DELETTE, OF LURE, FRANCE.

COMBING-MACHINE FOR TEXTILE MATERIALS.

SPECIFICATION forming part of Letters Patent No. 620,747, dated March 7, 1899.

Application filed February 25, 1898. Serial No. 671,627. (No model.)

To all whom it may concern:

Be it known that I, EUGÈNE DELETTE, a citizen of the Republic of France, residing at Lure, Department of Haute-Saône, France, have invented Improvements in Combing-Machines for Textile Materials, (patented by Letters Patent of Addition No. 238,825, filed in France January 14, 1898; Letters Patent of Addition No. 110,266, filed in Belgium January 24, 1898; Letters Patent of Addition No. 81,432, filed in Germany January 29, 1898, and Letters Patent of Addition No. 18,852, filed in Spain January 29, 1898,) of which the following is a specification.

This invention relates to combing-machines for textile materials in which the combing of the sliver is effected by means of a stationary circular reed; and the same consists in a new kind of presser device, the purpose of which is to compel the material to be combed to enter between the needles of the circular reed.

The application of a presser-cylinder to the combing-machines of the Heilmann type has been proposed heretofore. In that system the presser device is formed of a cylinder having a certain number of longitudinal and parallel corrugations or projections disposed in regular order on its periphery. This cylinder is movable about its axis and moved by a toothed pinion keyed onto its axis, which engages with a toothed wheel keyed on the axis of the circular reed, so that during the rotation of the same the projections of the cylinder arrive successively between the rows of needles of the circular reed after the manner of the teeth of two gear-wheels, but without any contact between said projections of the cylinder and said needles of the circular reed. In this arrangement the driving-cylinder is stationary with relation to the circular reed, with the result that after each combing of the sliver the circular reed shall move away from the jaws of the clamp with the presser-cylinder in order to release the head of the sliver and allow the same to be grasped by the pick-off device. This is obtained by imparting to the whole device formed by the circular reed and the presser-cylinder an alternately up-and-down motion. My device consists, on the contrary, in the use of a circular reed the axis of which is stationary, combined with a movable presser arranged in such a manner that the pressing of the material to be combed shall occur as close as possible to the jaws holding the sliver to be combed.

The invention will be described hereinafter in detail with reference to the annexed drawings, in which—

Figure 1 is a cross-section of the apparatus in a certain position. Fig. 2 is a cross-section thereof in another position. Fig. 3 is an end view. Figs. 4 and 5 show two peculiar arrangements of the presser-cylinder.

As shown in Figs. 1, 2, and 3, the circular reed M is of a small diameter and its axle is stationary in order to give more steadiness to that part of the apparatus. Driver A only acts on a portion of its periphery. This driver is movable on its axis and is carried at both ends by two supports B, arranged on two ends of the circular reed M and movable on the axis of said reed. These supports have an oscillatory movement on the axis of the said reed by means of a pair of links which connect the said supports with levers E, keyed on the shaft G, the latter receiving an oscillatory movement from an arm H, also keyed on shaft G, (the keying of which may be regulated by means of a screw or key *h*, as more fully described hereinafter,) and terminated by a roller traveling on a cam P, arranged on the side of the frame of the machine. The reed M has a rotary continuous movement in the direction of the arrow at a uniform speed or one varied by the intermediary of any suitable means, such as a train of gearing, (not shown,) and which operates the pinion *b*, keyed on a prolongation of the journal of said reed. This movement of rotation is transmitted to the driver A by means of pinions *a* and *b*, one, *b*, of which is keyed on the reed M, as just stated, while the other is keyed on the spindle of the driver A. During the combing the driver A oscillates toward the jaw D of the gripper under the influence of the cam P, and the proportions of the pinions *a* and *b* are arranged in such a way that the projections of the driver engage between the rows of teeth of the circular reed toward the end of the combing when this driver has

come into the proximity of the lower part of the jaw D. Then when this driver A has turned on itself to a sufficient extent to allow its ungrooved part to be precisely opposite the lower part of the jaw D the concave portion of the cam P imparts a slight brusk movement of recoil toward the said jaw, which has for its object to drive the material between the teeth of the circular reed as near as possible to the jaw D and under the nose of said jaw. This position is shown in Fig. 1. It follows that said presser is eccentric. During the combing the driver A approaches the jaw D by a progressive motion. Then when it reaches such a position that the part without corrugations is opposite the jaw D the same receives a sudden receding motion toward said jaw. The presser A then falls simultaneously with the last rows of needles of the reed M and leaves the sliver-head free to rise at the moment the upper jaw D opens, and the blade F completes the rising of the head to present the same to the action of the pick-off cylinders J, as represented in Fig. 2.

The presser A is mounted on two supports B, placed at the right and the left of the circular reed M, and it receives its oscillating motion about said reed through a pair of links C, connecting the supports B with levers E, mounted on the shaft G, on which they are keyed. The shaft G receives its motion from an arm H, the keying of which may be regulated by the screw *h*, and which arm terminates in a roll actuated by cam P on the side of the frame.

The rotary motion is transmitted to presser A by means of the gear-wheels *a* and *b*, one of which, *b*, is keyed onto the shaft of reed M and the other onto the axis of presser A.

The pick-off is effected as in the systems of combing-machines now in use through one or more finishing-combs I I′ and is produced either by means of an endless leather strip and two rollers J J or by means of a four-oscillating-roller system or by any other suitable device. It is evident, however, that the number and the form in profile of presser projections may be varied according to the nature of the material to be combed.

In the arrangement shown in Figs. 1 and 2 I have represented as a specimen a presser provided with two juxtaposed longitudinal projections on the surface of said presser. It may, however, be advantageous to provide the presser with projections on the entire periphery thereof, taking care in such case to largely reduce the profile of some of the successive projections in order to enable the presser device to approach very near the jaw D. A device of this kind is represented in Fig. 4. Finally, in some cases—for instance, when dealing with very short wools—it will be sufficient to form the driver by means of a single projection, as represented in Fig. 5.

The screw *h*, by means of which the position of the arm H on the shaft G may be varied to vary the path through which the driver A acts, extends through a rearward lateral projection on the arm and bears against a collar fixed to the shaft adjacent to the arm H. By screwing screw *h* downward against this collar the latter will be forced downward, thereby turning the shaft G and throwing the presser A around to the right, thus changing its position, and while the throw of presser A under the influence of cam P will be the same as before it will move in a different path or arc of its circular oscillatory movement.

Having thus described my invention and pointed out the means whereby the same is to be carried into practice, what I claim is—

1. In a combing-machine, the combination with a combing-reed provided as usual with teeth and mounted on a fixed shaft, of a presser comprising a cylinder provided with longitudinal projections adapted to enter in the rows of teeth on the combing-reed, said presser being carried by two cheeks mounted to swing around the fixed shaft of the combing-reed, a pinion mounted on the presser-shaft and a second pinion mounted on the shaft of the combing-reed in operative engagement with the first-named pinion, substantially as described.

2. In a combing-machine, the combination with a combing-reed provided as usual with teeth and mounted on a fixed shaft, of a presser comprising a cylinder mounted on a shaft parallel to the shaft of the combing-reed and having longitudinal projections engaging between the rows of teeth on the combing-reed, a pinion keyed onto said presser, a second pinion keyed onto the shaft of the combing-reed and engaging the first-named pinion for operating the same, and two lateral cheeks carrying the shaft of the presser and movable on the shaft of the combing-reed, one of said cheeks being operated by a cam through the medium of gear-levers, substantially as described.

3. In a combing-machine, the combination with a combing-reed provided as usual with teeth and mounted on a fixed shaft, of a presser A mounted on a shaft parallel to the fixed shaft of the combing-reed and provided with longitudinal projections on a portion of its surface only, a pinion *a* keyed on said presser and operatively engaging with a pinion *b* keyed on the shaft of the combing-reed, two lateral cheeks movable on the shaft of said combing-reed and carrying said presser-shaft, one of said cheeks B being actuated by a cam P through the medium of gear-levers, substantially as described.

4. In a combing-machine, the combination with a combing-reed mounted on a fixed shaft, of a rotary presser provided with longitudinal projections on a portion of its surface only and adapted to oscillate around said combing-reed, a jaw D, an operating-cam P

adapted for imparting an abrupt recoil movement of the presser toward the jaw D as soon as the last projection on the presser has passed the point of said jaw, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 5th day of February, 1898.

EUGÈNE DELETTE.

Witnesses:
JACQUES CONDSURY,
LEON MARTYE.