

(No Model.)

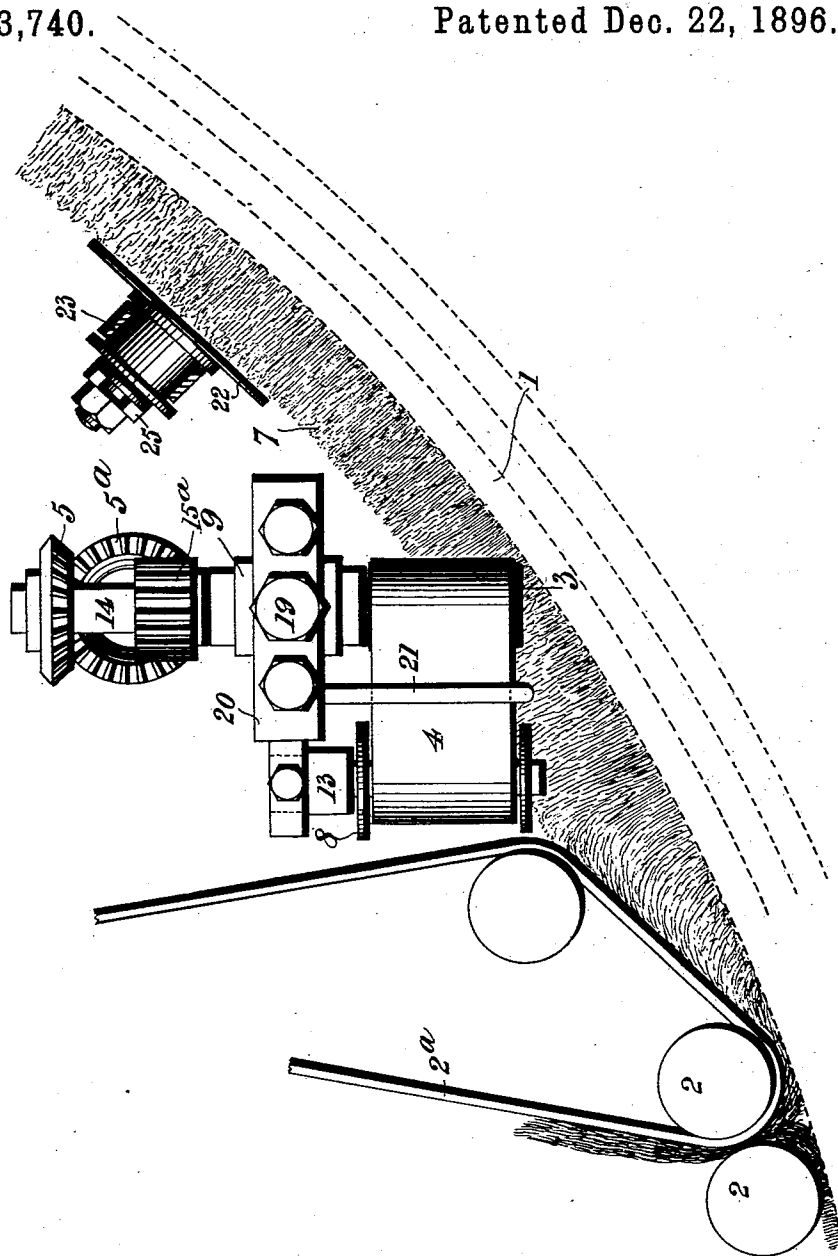
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& J. ROBINSON.
COMBING MACHINE.

No. 573,740.

Patented Dec. 22, 1896.

Fig. 1.



WITNESSES.

Joshua Wood
J. Pierley Howard

INVENTORS.

William Whalley
Arthur Clegg
Thomas Washington Benson
William Parratt
Joe Robinson

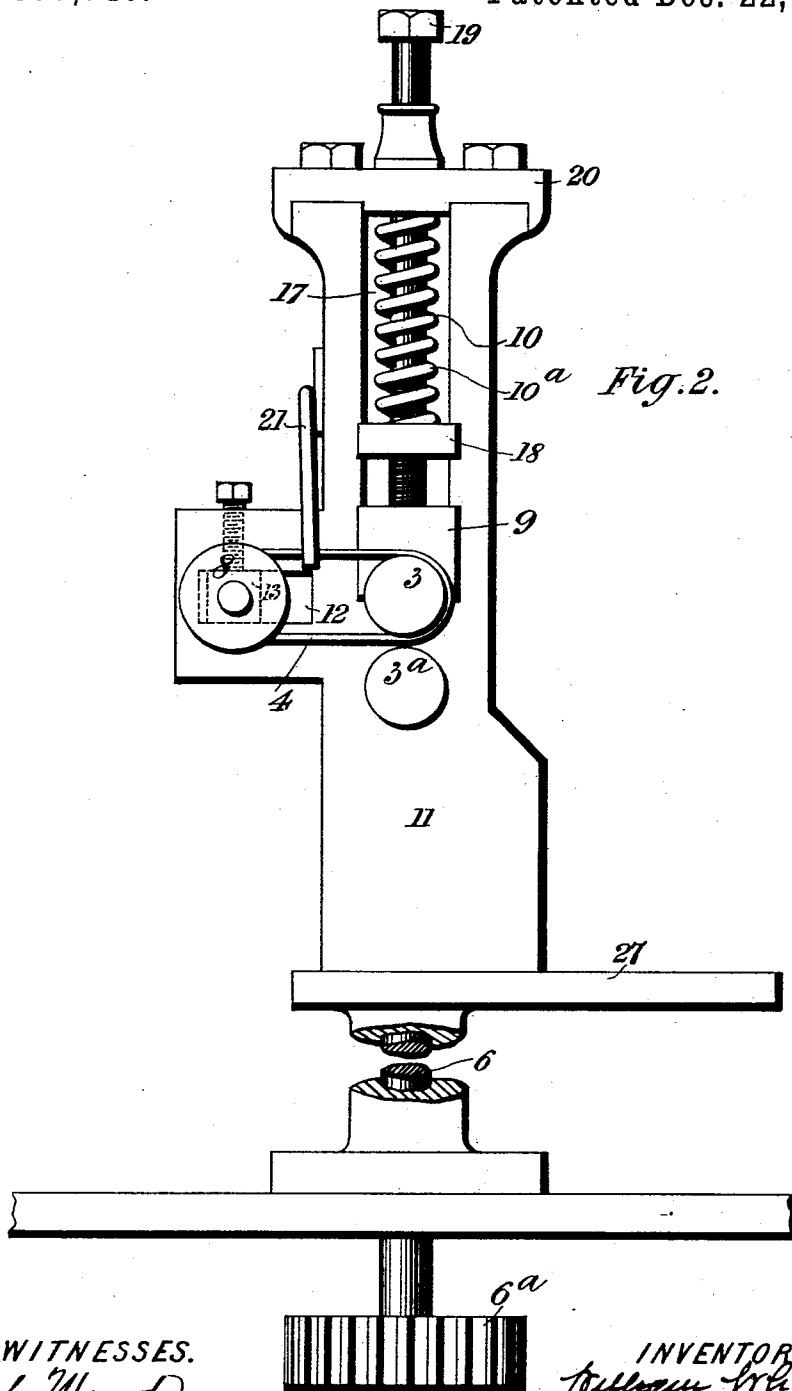
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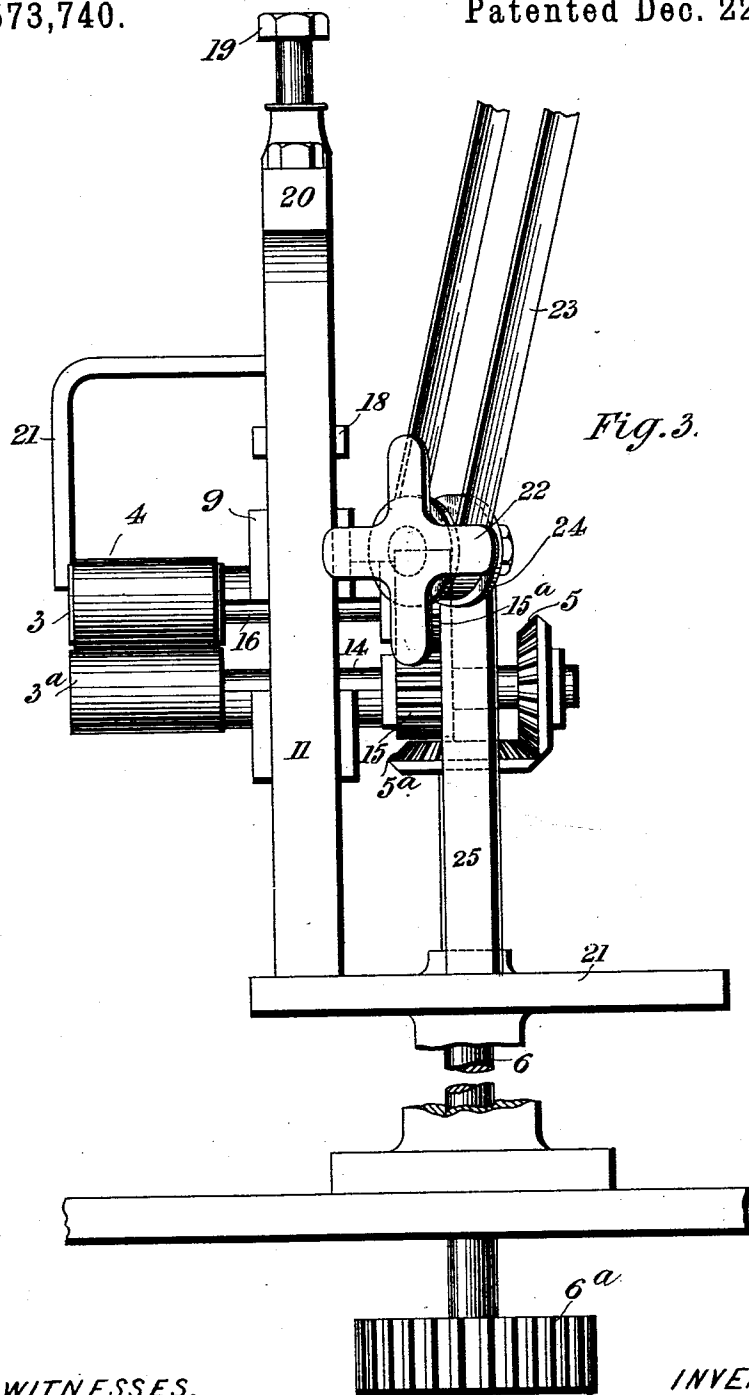
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Joe Robinson

UNITED STATES PATENT OFFICE.

WILLIAM WHALLEY, ARTHUR CLEGG, THOMAS WASHINGTON BENSON,
WILLIAM PARRATT, AND JOE ROBINSON, OF HALIFAX, ENGLAND.

COMBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 573,740, dated December 22, 1896.

Application filed August 3, 1896. Serial No. 601,536. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM WHALLEY, ARTHUR CLEGG, THOMAS WASHINGTON BENSON, WILLIAM PARRATT, and JOE ROBINSON, subjects of Her Majesty the Queen of Great Britain, residing at Halifax, in the county of York, England, have invented a certain new and useful Improvement in Combing-Machines, of which the following is a specification.

Our invention relates to an improvement in circular combing-machines for combing wool and like fibers, and more particularly to an attachment for that special class of combing-machines where the wool or other fiber is taken from the inner periphery of the circular comb, of which Noble's machine is an example, the object being by the use and employment of simple and inexpensive mechanism to enable the machine to do considerably more work and produce less "noil," as well as to effect a saving in the "leathers" of the rolls and to obtain better practical results than heretofore.

The invention consists in partly drawing out the fiber from the large comb-circle just before it reaches the "nip" of the drawing-off rollers in such a manner that the fibers are better presented and the rollers draw off both long and short fibers together.

Referring to the accompanying drawings, Figure 1 is a plan of part of a combing-machine having our improvements applied thereto. Fig. 2 is an elevation of the improved appliances for the purpose aforesaid, and Fig. 3 is an elevation at right angles to Fig. 2.

According to our invention we mount close to the inner edge of the large comb-circle 1 and at a short distance before the nip of the drawing-off rollers 2 2 a pair of nip-rollers 3 3^a. These are journaled at one end in a suitable upright or frame 11, so that their other ends are open. The roller 3 has a leather band 4 passing round same and connecting it with a flanged roller 8, journaled in a block 13, which is adjustable in a slot 12 in an extension of the frame 11. By adjusting the roller 8 the tension of the band 4 can be properly maintained. The roller 3^a is driven by the shaft 14, which carries a bevel-gear 5, driven in turn by a bevel-gear 5^a on a verti-

cal shaft 6, driven by a spur-wheel 6^a from some suitable moving part. The shaft 14 carries a pinion 15, which engages with a pinion 15^a on the shaft 16 of the roller 3, so that both rollers 3 and 3^a are driven.

The pressure of the upper roller 3 and the leather 4 upon the roller 3^a is regulated by means of the bearing-block 9, movable in the slot 17 of the frame 11, and the adjusting-nut 18, screwed rod 10, and spring 10^a, the rod being rotated for the purposes of the adjustment by means of the squared head 19 and the rod being supported by a cap-plate 20, screwed or attached to the upright 11. 21 is a fork or arm suitably supported to keep the belt 4 from running off the open end of the roll 3. The device is suitably supported upon a bed-plate 27.

The rollers 3 3^a, it will be seen in Fig. 1, are placed at an angle to the comb-circle 1, so that during the revolution the fibers 7, lying out horizontally from the comb-circle, pass into the nip of the rollers and leather band 4, which by their movement partly draw or pull out the fiber, so that a longer portion protrudes on the other side of the rolls for the ordinary draw-off rollers 2 2 on leather 2^a to lay hold of.

22 is a beater driven by a belt 23 and pulley 24 and carried by a standard 25 for beating up the fibers protruding from the comb-circle.

What we claim is—

1. In a combing-machine of the class described and in combination, the circular comb, the drawing-off rollers, a pair of open-ended rolls situated inside the comb-circle and at an angle thereto, a band carried by one of the rolls, a third roll over which the band also passes, means for adjusting the latter roll, means for adjusting the pressure or nip of the open-ended rolls, means for driving same, and means for supporting the three rolls, said rolls and band being adapted to partly draw out the fibers from the comb-circle before they are presented to the drawing-off rollers, substantially as described.

2. In a combing-machine of the character described, the combination with the circular comb and the drawing-off rollers, of a pair of open-ended nipping-rollers situated inside of

the comb-circle and at an angle thereto, a band carried by one of the said rollers, a third roller over which the band also passes, mounted on an adjustable bearing for varying the tension of the said band, a tension device
5 mounted over the nipper-rollers for varying the pressure between the said nipping-rollers, means for driving and supporting the said rollers, a rotary beater mounted near said rollers
10 for beating up the fibers protruding from the comb and means for driving the same, substantially as described.

3. In a combing-machine of the character described, the combination with the circular
15 comb and drawing-off rollers, of a pair of open-ended nipper-rollers situated inside the comb-circle and at an angle thereto, a slotted frame, shafts carrying said rollers journaled in said frame, gears carried by said shafts, a
20 vertical shaft geared to one of the aforesaid roller-shafts for driving the same, a bearing-block movable in the slot of said frame and adapted to exert a downward pressure on the shaft of one of the said nipper-rollers, a screw

mounted in said frame and a spring for varying the pressure of said block on said shaft, an adjustable bearing mounted in said frame, a roller mounted in said bearing, a band passing over said roller and also over one of the said nipper-rollers to partly draw out the
30 fibers from the comb-circle before they are presented to the drawing-off rollers, and a rotary beater carried near said rollers for beating up the protruding fibers, and means for driving the said beater, substantially as described.
35

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

WILLIAM WHALLEY.
ARTHUR CLEGG.
THOMAS WASHINGTON BENSON.
WILLIAM PARRATT.
JOE ROBINSON.

Witnesses:

JOSIAH WOOD,
J. BRIERLEY HOWARD.