

(No Model.)

F. BOTTOMLEY & E. W. ATKINSON.
MECHANISM FOR WEIGHTING DETACHING ROLLS ON COMBING MACHINES.

No. 531,767.

Patented Jan. 1, 1895.

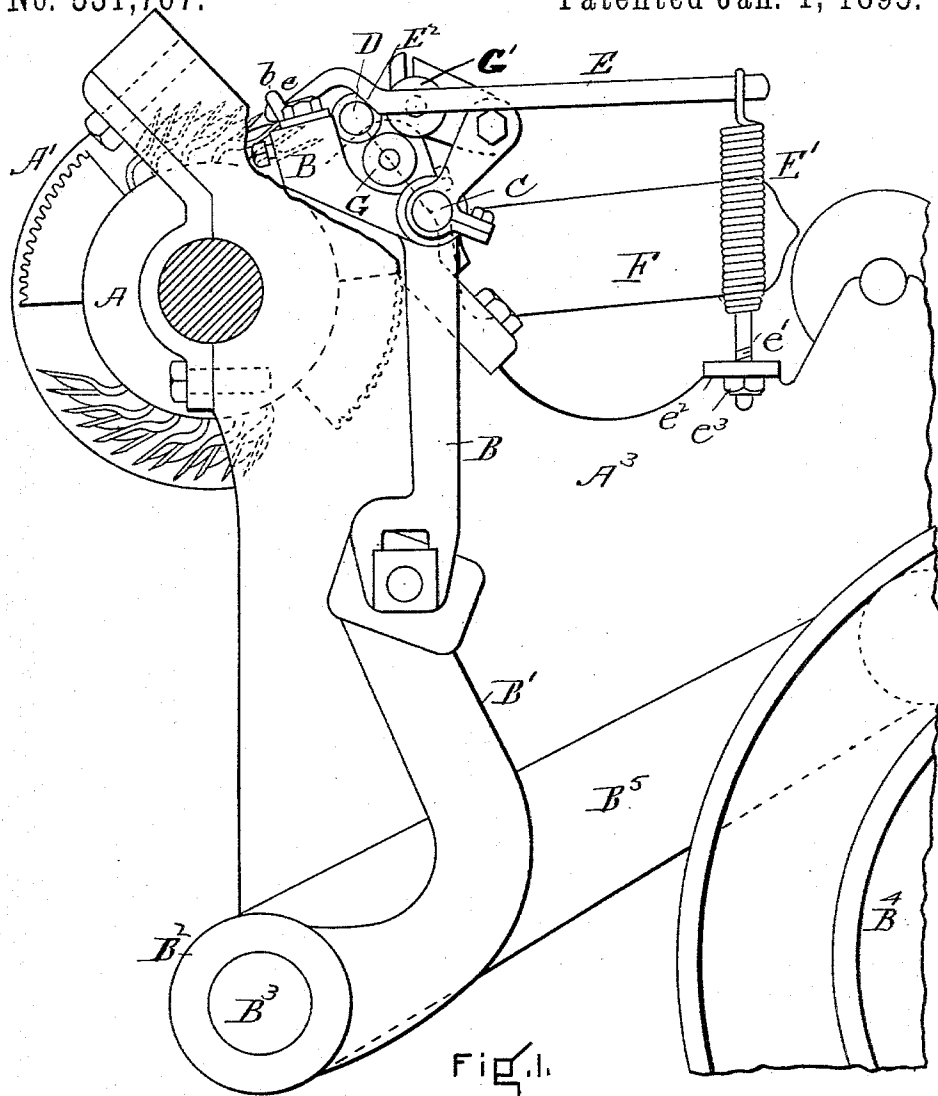


Fig. 1.

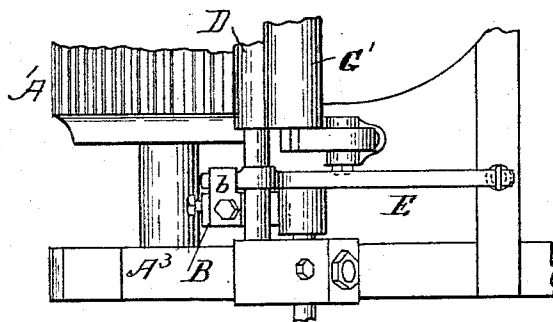


Fig. 2.

WITNESSES

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FREDERICK BOTTOMLEY, OF BOLTON, ENGLAND, AND EDWARD W. ATKINSON, OF BROOKLINE, MASSACHUSETTS.

MECHANISM FOR WEIGHTING DETACHING-ROLLS ON COMBING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 531,767, dated January 1, 1895.

Application filed May 9, 1894. Serial No. 510,576. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK BOTTOMLEY, of Bolton, Lancashire, England, and EDWARD W. ATKINSON, of Brookline, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Mechanism for Weighting the Detaching-Rolls on Combing-Machines, of which the following is a specification.

We have shown our invention applied to the combing machine, well known as the "Heilman combing machine," in which the comb cylinder contains both comb needles and fluted portions, the latter to aid in detaching the fiber, the comb needles and fluted portions being arranged in alternate segments, preferably say four segments to the cylinder. In this machine the fluted segment or segments form a portion of the detaching mechanism, namely: a detaching surface the rest of the detaching mechanism consisting of a detaching roll and two other rolls which receive and feed the sliver to the guide after it has been gathered by the detaching roll.

Our invention relates to the means for weighting the detaching roll and will be understood by reference to the drawings, in which—

Figure 1 shows an end elevation (partly in section) of a combing mechanism containing our invention, Fig. 2 being a detail showing a plan of one end of the detaching mechanism and means by which it is operated.

In the drawings A is the combing cylinder, A' being the segments of comb needles and A² being the fluted segments forming detaching surfaces. This cylinder is mounted in a suitable frame A³ and is caused to rotate by any well known means, and there is provided in connection with it mechanism for feeding the sliver thereto, which means may be of any known variety.

B is a lever in two parts connected by a sleeve and adapted to be rocked on the stud C. It is connected to the rocker arm B' by a slotted connection at its lower end. This rocker arm is mounted on a sleeve B² on stud B³, and is operated by the cam B⁴, to which it is connected, by the connecting rod B⁵.

D is the detaching roll which lies between

the lever B and the lever E resting also on the lower roll G. It is normally in contact with the upper end of the lever B.

E is a spring controlled lever, one end of which *e* fits into an eye *b* on the upper end of the lever B. The purpose of this lever E is to apply the force of a spring upon the detaching roll when that roll has been thrown into action by the lever B in the manner to be described. A convenient means of applying spring power to the lever is to attach the free end of said lever E to the spring E'. The lower end of this spring carries a screw *e'* which passes through a hole in the bracket *e*² attached to the frame A³ of the machine, and is adjusted by the nut *e*³ so as to control the strength of the spring. A shoulder E² on this lever bears on a bushing on the roll D so as to press the roll against the combing cylinder at the proper time.

F is a guide for carrying away the sliver.

G, G' are rolls for taking the sliver from the roll D and delivering it to the guide F.

The operation of our mechanism is as follows:—The comb cylinder being rotated, the cam B⁴ is so timed as to throw the upper end of the lever B toward the combing cylinder as soon as the comb needles have passed under the detaching roll, so that the detaching roll will instantly move down toward the fluted segment of the cylinder which is then passing under it. The lever E is pulled by the lever B against the force of the spring E', and bearing upon the bushing of the detaching roll D, will pull upon that roll as a fulcrum and permit it to rotate by friction against the fluted segment of the combing cylinder, and draw out the combed fibers, which will be directed between the rolls G, G' to the guide F. When however, the cam B³ withdraws the upper end of the lever B, it will be seen that the spring E' assists in causing the parts to resume their original position and release the detaching roll so that the upper end of the lever B, the detaching roll C and the lever D will all move at once out of the way of the approaching segment of comb needles.

This construction is a great improvement upon any method of holding the detaching roll down to its work, now known to us, in that the pressure on the detaching roll is

substantially relieved the instant power is needed to cause the other parts of the machine to begin the combing operation. In this respect our invention is a great improvement on any other method of weighting the roll, such as for example, by means of a dead weight, for by the use of a spring, in some such way as is described, the roll is not only held down to its work, but it is withdrawn by the same power the instant the lever B is returned to its inactive position.

What we claim as our invention is—

1. In a combing machine, a combing and detaching cylinder having alternately combing and detaching surfaces about its periphery and a detaching roll and mechanism whereby said detaching roll is moved toward and from each detaching surface, in combination with a spring mechanism acting positively to press said roll against said detaching surface, when said detaching roll is in contact therewith, and at other times substantially releasing said detaching roll from pressure, as and for the purposes set forth.

2. In a combing machine in combination with a combing cylinder having combing needles and one or more detaching surfaces, a detaching roll, a lever B supporting said detaching roll upon its upper end, and mechanism whereby the upper end of said lever is thrown toward and from said detaching surface or surfaces and a spring controlled lever E attached at one end to said lever B and bearing upon said detaching roll when said roll is engaged with a detaching surface, all as and for the purposes set forth.

In testimony whereof we have hereunto set our hands this 1st day of May, 1894.

FREDERICK BOTTOMLEY.

EDWARD W. ATKINSON.

Witnesses as to the signature of Frederick Bottomley:

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