

1,056,137.

FIG\_1\_

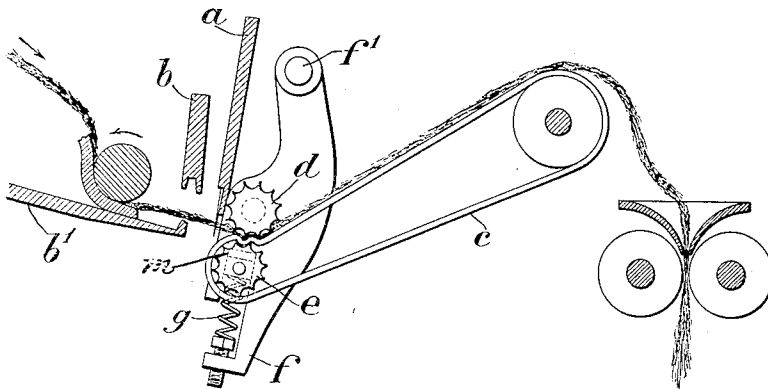
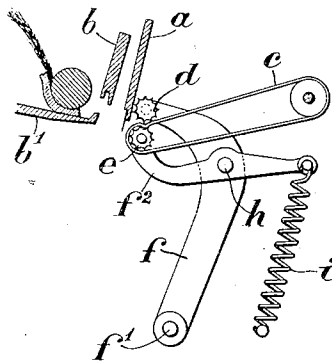


FIG - 2 -



W. H. Berrigan  
John A. Hoving.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

JEAN CHARLES ALFRED WENNING, OF MÜLHAUSEN, GERMANY, ASSIGNOR TO THE FIRM OF SOCIÉTÉ ALSACIENNE DE CONSTRUCTIONS MÉCANIQUES, OF MÜLHAUSEN, GERMANY.

HEILMANN COMBING-MACHINE.

1,056,137.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed May 27, 1909. Serial No. 493,711.

*To all whom it may concern:*

Be it known that I, JEAN CHARLES ALFRED WENNING, a subject of the Emperor of Germany, and resident of Mülhausen, 5 Alsace-Lorraine, Germany, have invented new and useful Improvements in Heilmann Combing-Machines, of which the following is a full, clear, and exact specification.

The present invention relates to Heilmann 10 combing machines, having a rotary combing cylinder, a feed nipper device, a drawing-off device and a picking comb, said devices being relatively movable to one another for the drawing-off operation. In 15 combing machines of this kind, the drawing-off device comprises two grooved drawing-off rollers one above the other, between which is a leather sleeve (drawing-off creeper) passing around the lower roller, whereby the pressure for seizing or gripping 20 the fibers (tuft) which are to be drawn off, is brought to bear upon the upper drawing-off roller. In this arrangement the upper drawing-off roller does not have its journals fixed in the member carrying the two 25 drawing-off rollers, but its journals are movable in the direction of the lower roller so as to allow the meshing of the grooves of the two rollers by means of the intermediate drawing-off creeper. The distance between 30 these rollers measured from axle to axle is not constant, but increases and diminishes each time a groove passes, which causes the upper drawing-off roller to have a vibratory movement. The journals of the lower drawing-off roller were formerly fixed in a part 35 of the machine. Practice has shown that this vibratory movement of the upper drawing-off roller prejudiced the good working of the machine, that is to say, influenced 40 the property of the material worked upon, in that the picking comb (fixed comb) which comes into contact with the upper roller at the end of the drawing-off operation, is in a like manner caused to vibrate, 45 which interferes with its precise position.

The present invention relates to Heilmann combing machines of the kind referred to, but obviates this inconvenience. To this 50 end, in the present improvement, the two drawing-off rollers which perform the drawing-off operation are so arranged that the drawing-off roller receiving the gripping pressure for said operation is placed, not 55 above, but underneath the other drawing-

off roller which has its journals fixed. As the picking comb now comes only into contact with the fixed drawing-off roller, it cannot consequently be vibrated. This arrangement has, further, the important advantage of facilitating the removal or the 60 changing of a creeper in combing machines having several heads when the creeper becomes worn or polished. In this case it is sufficient to only remove the damaged 65 creeper by removing the roller on which the pressure acts, whereas hitherto it was necessary to remove all the creepers in the ordinary combing machines in which the 70 creepers of all the heads surround the principal drawing-off roller which is made in one piece.

The accompanying drawing shows by way of example two embodiments of the invention, in each of which the drawing-off 75 rollers are arranged to oscillate in the drawing-off operation.

Figure 1 shows the first, preferred form in which the journals of the lower drawing-off roller are movable in a slot. Fig. 2 80 shows the second form in which the journals of the lower drawing-off roller are fixed in a movable lever controlled by a spring.

In these figures, *a* is the picking comb or fixed comb, *b*, *b*<sup>1</sup> the upper and lower jaws 85 of the feed nipper, and *c* the drawing-off creeper.

In the arrangement of Fig. 1, the drawing-off rollers *d*, *e*, placed one above the other, are carried by a lever *f* oscillating 90 about *f*<sup>2</sup> and arranged to move the drawing-off rollers relatively to the nipper jaws *b*, *b*<sup>1</sup> for the drawing-off operation, said movement of the lever *f* being so controlled that the upper drawing-off roller *d* may substantially 95 come into contact with the picking comb *a* at the end of the drawing-off operation. The journals of the upper drawing-off roller *d* are fixed in the lever *f*, while those of the lower drawing-off roller *e* engage sliding carriers movable up and down 100 in guide-slots *m* of the lever *f* and controlled by one or more sustaining springs *g* designed to lift said carriers for the lower drawing-off roller *d* and to thus exert the nipping 105 pressure. The drawing-off creeper *c* passes, in the usual manner, round the lower drawing-off roller *e*.

In the arrangement shown in Fig. 2, the journals of the lower drawing-off roller *e* 110

are fixed in a lever  $f^2$  pivoted at  $h$  on the principal lever  $f$  and controlled by a spring  $i$ . The principal lever  $f$  is pivoted at  $f^1$  and carries the upper drawing-off roller  $d$ . The  
 5 lever  $f^2$  controlled by the spring  $i$  gives the nipping or seizing pressure and allows the lower drawing-off roller  $e$  to yield to a certain amount during the meshing of the grooves.

10 It is evident that the nipping pressure of the lower drawing-off roller  $e$  could also be operated independent of the lever  $f^2$ .

What I claim is:

1. In Heilmann combing machines, a feed  
 15 nipper device, a couple of superimposed drawing-off rollers with a drawing-off creeper between them, a movable picking comb arranged to be lowered into a position opposite to the upper drawing-off roller, an  
 20 oscillating lever mechanism for carrying and operating said couple of drawing-off rollers, movable supporting means on said lever mechanism for supporting the lower drawing-off roller so as to render it capable of  
 25 raising and lowering relatively to the upper roller, and a yielding device for lifting said supporting means to exert from below the nipping pressure in the drawing-off roller

couple, without interfering with the picking comb, substantially as and for the purpose 30 described.

2. In Heilmann combing machines, a feed nipper device, a couple of superimposed drawing-off rollers with a drawing-off  
 35 creeper between them, a movable picking comb arranged to be lowered into a position opposite to the upper drawing-off roller, an oscillating lever for carrying and operating said couple of drawing-off rollers, upwardly  
 40 directed guide-slots on said oscillating lever, supporting slide carriers in said guide-slots for slidably supporting the lower drawing-off roller, and sustaining springs for lifting  
 45 said roller carriers to exert from below the nipping pressure in the drawing-off device, without interfering with the picking comb, substantially as and for the purpose de  
 scribed.

In witness whereof I have hereunto signed my name this 14th day of May 1909, in the 50 presence of two subscribing witnesses.

JEAN CHARLES ALFRED WENNING.

Witnesses:

GEO. GIFFORD,  
 AMAND GRACEY.