

UNITED STATES PATENT OFFICE.

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TRUMPET FOR COTTON MACHINES.

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To all whom it may concern:

Be it known that I, ARTHUR JEFFERSON BLACKWOOD, a citizen of the United States, and a resident of Carrboro, in the county of Orange and State of North Carolina, have invented certain new and useful Improvements in Trumpets for Cotton Machines, of which the following is a specification.

This invention relates to an improvement in sliver pan stop motion adapted for use with a stop motion apparatus of combing machines. In apparatus of the Heilman type combing machine a trumpet is employed which may have a definite position or which may be spring pressed for automatically varying its position towards or away from the usual calender rollers for feeding a sliver to the calender rollers and which is adapted by reason of its narrow throat to provide a resistance to a sliver when the same has become bunched or enlarged and thereby causing breakage of the sliver between the trumpet and the calender rollers so that when the detached end of the sliver has passed entirely through the calender rollers the upper calender roller will be seated upon the lower calender roller and close a circuit to stop mechanism causing stoppage of the combing machine. However, these constructions are not effective for the purpose and the strain that has been exerted on the sliver tends to divide the sliver in two at a point beyond the calender rollers instead of at a point between the calender rollers and the trumpet, and this is due to the fact that the mouth of the trumpet is usually placed too close to the calender rollers in each instance so that the distance between the mouth of the trumpet and the meshing portions of the calender rollers is less than the length of a staple of the cotton thereby leaving one end of the staple within the trumpet while the other end is engaged by the calender rollers, thus when any breakage occurs it will take place beyond the calender rollers instead of between the calender rollers and the trumpet.

An object of the present invention is the provision of a trumpet which is adapted to be set manually a predetermined distance from the calender rollers, the distance being determined by the length of the staples of the cotton employed in making the slivers.

A further object of the invention is the provision of a trumpet adapted to be adjusted at the mouth of a pin body for absolutely controlling the breakage of a sliver be-

tween the trumpet and the calender rollers when the sliver becomes bunched at the inner opening of said trumpet.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings forming a part of the specification; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a vertical section of a sliver pan in position showing a trumpet constructed in accordance with the principles of my invention.

Figure 2 is a plan view of a sliver pan showing the trumpet in operative position.

Figure 3 is a front end view of the sliver pan and trumpet.

Figure 4 is a side view of an inner tubular guide for the trumpet.

Figure 5 is a view in perspective of the trumpet constructed in accordance with the principles of my invention.

Referring more particularly to the drawings, a sliver pan generally designated by the numeral 10 has a bottom 11, side walls 12 and a reduced forward end 13, the rear edge being flared outwardly and turned downwardly as at 14 and held in place by means of a clip 16 mounted on the casing wall 16. At the rear end of the pin 12 is mounted a plurality of detaching rollers 17 between which the sliver is passed before it is projected upon the perforated body 11 of the sliver pan. The forward end of the pan is carried by a threaded bolt 18 mounted on a transverse bar 19 of the frame 20.

A calender roll 21 carried by an axle 22 is spaced below a second calender roll 23 carried by an axle 24 which is mounted in a bearing 25 on a bracket plate 26. These rolls are located between a trumpet 27 constructed in accordance with the principles of my invention and the usual sliver table 28. The rollers 21 and 23 are adapted to be maintained out of contact with each other by the sliver passing between the rolls but they are adapted to be placed in contact for closing the circuit designated by the wires 29 which causes operation of a device 30 which is adapted to shift the belt or turn off

the power which operates the roller 21. A source of current 31 is placed in the circuit 29. It will be noted that one terminal of the wire is connected to the bracket 26 as shown at 32 while the other terminal is connected to the bar 19 as shown at 33.

The sliver pan is provided with a pair of inturned wings 34 which aid materially in maintaining the sliver within the pan as it reaches the flared mouth 35 of the trumpet 27. The portion 36 of the trumpet is circular and is of uniform cross section throughout.

The trumpet 27 rides within a guide member 37 which is secured in the outer open end 38 of the pan 10. The guide is locked in place by means of the nut or sleeve 39.

The guide 37 is provided with a longitudinal passage 40 in which is adapted to slide the trumpet 27. The inner end of the passage as shown at 41 is flared to receive the forwardly moving end of the sliver before it is received by the passage in the trumpet 27. The trumpet is provided at its outer wall with a groove 42 terminating at 43 and which is engaged by the inner end of a set screw 44 for limiting the outward movement of the trumpet relative to the guide 37 and the sliver pan 10.

It will be seen by this construction that the trumpet 27 may be moved rearwardly or outwardly of the guide 37 and rigidly fixed in position for compensating for various lengths of staples employed in the slivers.

In the operation of my device the sliver is passed between the rolls 17 into the pan 10 and concentrated through the passage 40, then through the flared mouth 35 and the passage 36 and the trumpet 37 and then placed between the calender rollers 21 and 23 whereby the sliver will maintain the rolls apart and prevent operation of the electrical device designated by the numeral 30.

Trumpets as previously constructed and mounted for operation at the end of a sliver pan permit one end of a staple to be retained within the trumpet while the other end is located between the rolls 21 and 23 so that when any knots or bunching of the sliver occurs at the flared mouth 35 of the trumpet a strain will be exerted and tend to break the sliver but such breakage will not occur until after the sliver is passed between the rolls and fallen upon the sliver table 28. In the present device the outer end of the trumpet 27 is adapted to be so positioned relative to the space between the rolls 21 and 23 that one end of the sliver may be located between the rolls while the other end has passed be-

yond the confines of said trumpet so that during any strain the sliver will be broken between the trumpet and the rolls 21 and 23. By being able to adjust the trumpet 27 or replacing said trumpet by trumpets of greater length I am able to compensate for the various lengths of staples used in the sliver so that at no time will an end of the staple be located in a trumpet while the other end is disposed between the calender rolls 21 and 23. As soon as the sliver is broken and the calender rolls have forced the sliver entirely through the same onto the table 28 roller 23 will fall upon roller 21 and complete the circuit between the bracket 26 and the frame 5. It must be borne in mind that the bracket 26 is insulated from the frame so that the circuit may be closed only when the calender roll 23 comes into contact with the roll 21.

What I claim is:

1. A sliver stop motion mechanism comprising a trumpet device including a support, said support having a longitudinal passage flared at its inner end, a trumpet slidably mounted in the longitudinal passage and provided with a circular passage, the inner end of the circular passage being flared, a groove provided in the outer wall of the trumpet and terminating short of the inner end of said trumpet, a set screw mounted in the support and having its inner end projecting into the groove for adjustably positioning the trumpet in its support to compensate for various lengths of staples employed in the sliver.

2. In a combing machine, a sliver pan having one end reduced, a trumpet support mounted in the reduced end of the pan and having a longitudinal passage, with the inner end of the passage flared towards the pan, a collar for locking the support to the pan, said support having a threaded radial opening, a set screw mounted in said opening and projecting into the passage in the support, a trumpet having a longitudinal passage mounted for sliding movement in the passage in the support and adapted to be engaged by the inner end of the set screw for locking the trumpet in a predetermined position, means on the trumpet adapted to be engaged by the set screw for limiting the outward movement of the trumpet relative to the trumpet support, and an electric circuit adapted to be closed when the sliver becomes broken, said trumpet being adapted to be adjusted in the sliding movement for compensating for various lengths of staples employed in the sliver.

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