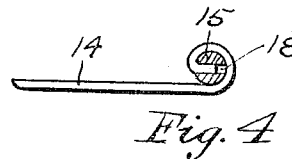
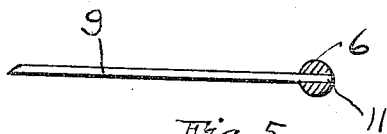
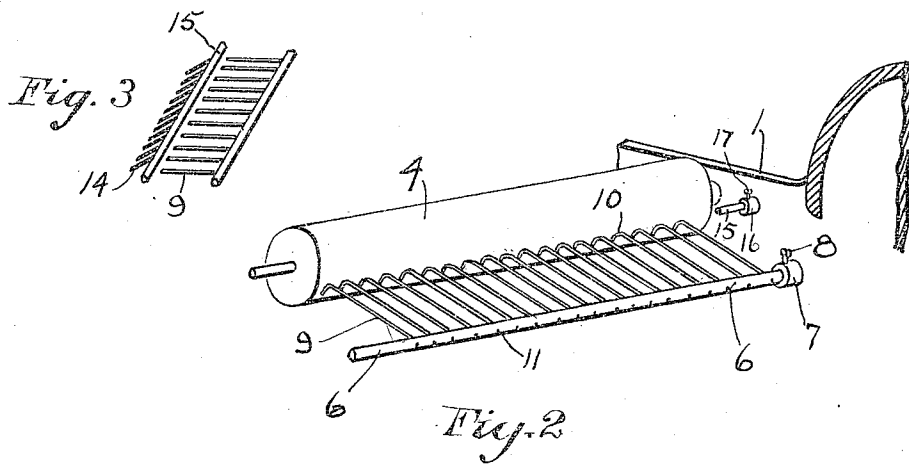
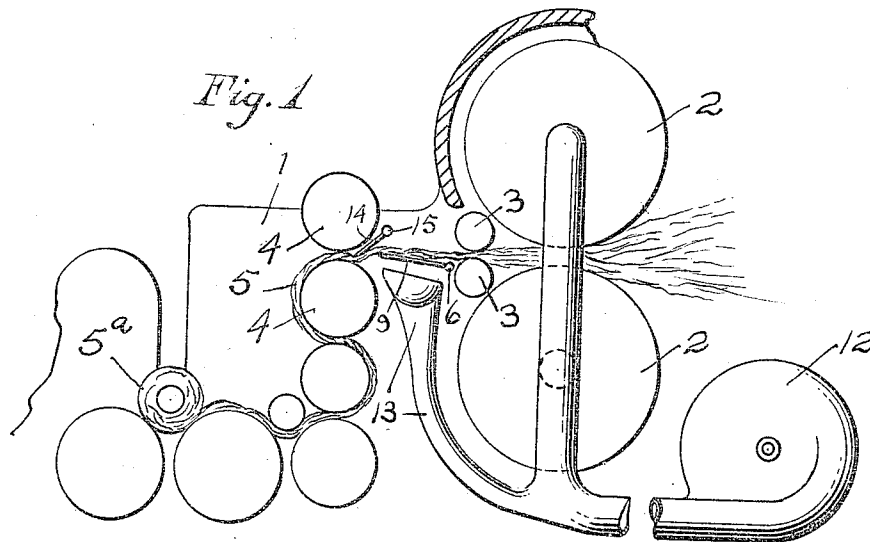


H. R. WHITEHEAD.
 SPLIT LAP PREVENTER FOR COTTON PICKERS.
 APPLICATION FILED APR. 6, 1908.

957,450.

Patented May 10, 1910.



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HOWARD R. WHITEHEAD, OF LONSDALE, RHODE ISLAND.

SPLIT-LAP PREVENTER FOR COTTON-PICKERS.

957,450.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed April 6, 1908. Serial No. 425,424.

To all whom it may concern:

Be it known that I, HOWARD R. WHITEHEAD, a citizen of the United States, residing at Lonsdale, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Split-Lap Preventers for Cotton-Pickers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to devices for preventing the lap from a cotton picker from splitting.

In cotton pickers as now ordinarily constructed a lap or sheet of cotton is formed therein, and subjected to the action of revolving beaters for the purpose of opening the same or picking the fibers apart and relieving them of dust, dirt, and other foreign substances. The lap is then fed to the revolving cage-rolls, which form, smooth and straighten the same. From these cages the lap is conducted to and wound upon the lap roll preparatory to being subjected to the action of the carding machine. It frequently happens, especially in damp or muggy days, that the laps wound upon the roll would cleave and stick together, so that when unwound a portion would split and run into the carding machine double, causing uneven and inferior work, extra labor and waste of material.

The object of my present invention is to obviate the above difficulty and provide a simple, inexpensive and effective device that will act upon the lap on both sides and set or iron the fibers smooth and firmly together, whereby the danger of sticking together and subsequent splitting of the lap is removed.

An essential feature of my invention is that a plurality of small parallel lap supporting fingers or bars are arranged to extend from the stripping rolls nearly to the calender rolls, the same being set parallel with the travel of the lap. Each bar is supported from one end which is fixed in a supporting rod of small diameter extending across the machine, said rod being pivotally supported at either end in the side frames of the machine. By this construction the lap is carried from the stripping rolls to the calender rolls, over a grating formed by said fingers or bars.

The arrangement for treating the upper side of the lap is similar to that used on the

under side. A rod containing fixed bars or fingers is pivotally supported to the frame on either side between the stripping rolls and the calender rolls, and are adapted to extend down into the path of the traveling lap and press against its upper surface.

The usual cotton picker is constructed with a table located between the stripping rolls and the calender rolls, over which the lap is drawn, and it is found in practice that considerable dirt and waste is shaken from the lap and deposited on this table and is subsequently rolled up, collected and carried forward by the traveling lap, causing trouble in the further manipulation thereof.

By the construction of my improved device I am enabled to perform several important functions, first, I do away with and remove the usual table entirely, and form a grating of the small fingers or bars for supporting the lap. By this arrangement there is absolutely nothing to collect or retain the dirt, all of which falls directly through the grating onto the floor, or is otherwise disposed of. Second, by my improved construction a current of air may be employed to act upon the lap to further extract the dirt therefrom while passing over the grating. Third, these parallel fingers serve to embed themselves into the lap, ironing the fibers down, causing them to lay flat and prevent the same from subsequently separating or splitting when the lap is unrolled, which ironing effect is increased or intensified by the action of the air current which draws the lap down onto said fingers as it passes thereover, fourth, duplicate bars are provided to also act upon, iron and similarly prepare the upper face of the lap, and fifth, by my construction the rods that support the fingers or grating on both sides of the lap may be rotated slightly in their bearings to raise or lower the ends of their fingers or bars so as to adjust the pressure of the same upon the lap.

With these objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1— is a sectional side elevation of a portion of a cotton picker showing my improved device attached thereto and in operative relation to the several rolls. Fig. 2— is a perspective view illustrating a slightly modified

construction of the lower set of bars and the means of supporting the same in the side frames of the picker. Fig. 3— is a perspective view showing both the upper and lower set of bars and their relative positions one to the other. Fig. 4— is a detail of one of the upper bars or fingers showing the manner of attaching the same to its supporting rod. Fig. 5— is a detail of one of the lower bars or fingers connected to its supporting rod.

Referring to the drawings at 1 is the frame of the ordinary cotton picker, and 2—2 are the cage rolls mounted therein. The lap after having been discharged from the picker is fed between these rolls to the stripping rolls 3—3 from whence it is delivered to the calender rolls 4—4, between which rolls the lap 5 is passed until it is finally wound upon the lap roll 5^a.

In order to support the lap as it passes from the tripping rolls to the calender rolls, I have removed the usual table and provided a thin rod 6 having a plurality of fingers or bars that extend across the space below the lap, said rod being preferably made of round material, but any form may be used that will not catch or retain the dirt from the lap. This rod is adapted to extend across the machine from one side frame to the other close to the periphery of the lower stripping roll, and is supported at either end in said frames by bearings 7 and retained in the desired position by set screws 8.

Projecting outwardly and upwardly from this rod at close intervals are long straight wire bars or fingers 9 extending nearly across the space between the stripping rolls and the calender rolls leaving a space between their ends and said roll through which the lap may pass. The ends of said bars or fingers may be straight if desired, as shown in Fig. 5, or have their ends turned downward as shown at 10 in Fig. 2. In order to compress and iron the lap on the upper side, as well as on the under, I have also provided a series of bars or fingers 14 similar to that used on the under side, the same being supported in a rod 15 and are preferably made straight, said upper bars adapted to register with the corresponding lower bars 9. The lower ends of these upper bars or fingers are adapted to rest against the upper face of the lap just before it reaches the calender rolls, as illustrated in Fig. 1. The rod 15 may be turned in its bearings 16 and set in any desired position to regulate the pressure against the upper face of the traveling lap, and is adapted to be held rigidly in the desired position by means of set screws 17. These wire bars or fingers may be attached to their respective rods in any desired manner, but I preferably attach the same in the manner illustrated in Fig. 4 wherein the ends of the wires 14 are inserted into corre-

sponding holes 18 in the rods 15 and then bent in a circular manner around the body of said rod and extend forward therefrom.

A special feature of my invention is that the lap is ironed on both sides and by my improved construction the ends of either set of fingers may be raised or lowered so as to regulate the pressure and ironing effect upon the fibers in said lap, as the same passes along between said upper and lower sets of ironers. By my arrangement of the lower bars a grating is formed covering the space between the stripping rolls to the calender rolls, and while this lap is passing thereover a pressure of air, preferably in the form of an exhaust current, is arranged to act upon the same by means of the fan 12, through the bell-shaped pipe 13, which serves to further act upon the lap before it leaves the picker, to withdraw from it any dust or dirt which may remain after having passed through the picking process. Another feature of this current of air is that the same acts upon the lap to draw it down hard onto said fingers or bars, increasing the ironing effect and laying the fibers straight and pressing them into the lap to such an extent that the same is prevented from splitting or separating.

My device is extremely simple in its construction and practical and effective in its operation, and by its use the lap is delivered from the picker comparatively clean and the fibers are laid smooth and regular on both sides and embedded into both faces thereof allowing the lap to be wound into a roll and unwound therefrom without the liability of the layers cleaving and splitting.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:

1. In a cotton picker, lap engaging means comprising a rod supported at its ends and provided with openings, and a plurality of fingers each having one end secured in one of said openings, said fingers being turned over said rod and having their free ends arranged to engage the under face of the lap, and a second rod provided with parallel fingers to engage the upper face of the lap.

2. In a cotton picker, lap engaging means comprising a rod provided with a plurality of parallel fingers projecting therefrom and constructed to engage the under face of the lap, bearings in which the ends of said rod are adjustably mounted to vary the angle of said fingers, set screws in said bearings arranged to engage said rod, and a second rod provided with parallel fingers to engage the upper face of the lap.

3. In a cotton picker, lap engaging means comprising a rod supported at its ends and provided with a plurality of parallel fingers projecting from said rod and constructed to engage the under face of the lap, and a sec-

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ond rod supported at its ends and provided with parallel fingers constructed to engage the upper face of the lap.

4. In a cotton picker, lap engaging means comprising a rod supported at its ends and provided with a plurality of parallel fingers projecting from said rod and constructed to engage the under face of the lap, a second rod supported at its ends and provided with parallel fingers constructed to engage the upper face of the lap, and means for permitting adjustment of said rods to vary the angles of inclination of the respective fingers.

5. In a machine of the character described, stripping rolls, calender rolls, a supporting rod adjacent said stripping rolls, a row of forwardly extending wire fingers or bars fixed in said rod and adapted to reach therefrom nearly to said calender rolls, forming a grating over which the lap may pass and through which the waste and dirt may fall out of reach of the following portions of the lap, means whereby said fingers may be raised and lowered to regulate their action upon the lap, and a second rod provided with parallel fingers to engage the upper face of the lap.

6. The combination with stripping rolls and calender rolls, of a rod supported at its ends and provided with a plurality of parallel fingers projecting from said rod and constructed to engage the under face of the lap, a second rod supported at its ends and provided with parallel fingers constructed to engage the upper face of the lap, said rods being mounted between the stripping rolls and calender rolls.

7. In a machine of the character described, stripping rolls, calender rolls, a plurality of parallel bars or fingers located between said sets of rolls over which the lap may pass, a plurality of bars or fingers under which the lap may pass, and means by which the bars

may be adjusted so that pressure is exerted by each set of bars upon opposite faces of said lap to set the fibers therein.

8. The combination with stripping rolls and calender rolls, of a rod supported at its ends and provided with a plurality of parallel fingers projecting from said rod and constructed to engage the under surface of the lap, means for increasing the pressure of the lap against said bars as the lap passes thereover, and a second rod provided with parallel fingers to engage the upper face of the lap.

9. The combination with stripping rolls and calender rolls, of a rod supported at its ends and provided with a plurality of parallel fingers projecting from said rod and constructed to engage the under surface of the lap, means for introducing a current of air to act upon the lap for removing dirt therefrom and causing an increased pressure of the lap against said bars while passing thereover, and a second rod provided with parallel fingers to engage the upper face of the lap.

10. In a machine of the character described, stripping rolls, calender rolls, a row of forwardly and upwardly extending bars or fingers between said sets of rolls forming a grating over which the lap may pass and through which the waste and dirt may fall out of reach of the following portions of the lap, means whereby said fingers may be raised and lowered to regulate their action on the lap, and means for increasing the pressure of said lap against said bars as it passes over the same.

In testimony whereof I affix my signature in presence of two witnesses.

HOWARD R. WHITEHEAD.

Witnesses:

HOWARD E. BARLOW,
E. I. OGDEN.