Nov. 15, 1932. W. H. HAMES 1,887,507

SPLIT LAP PREVENTER

Filed July 30, 1931

Fig. 1.

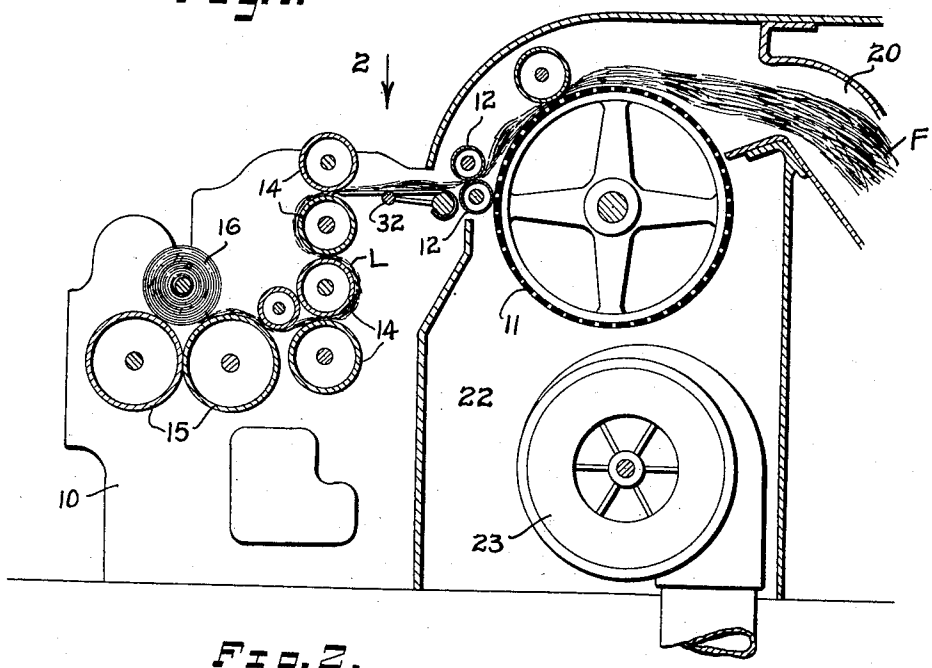


Fig. 2.

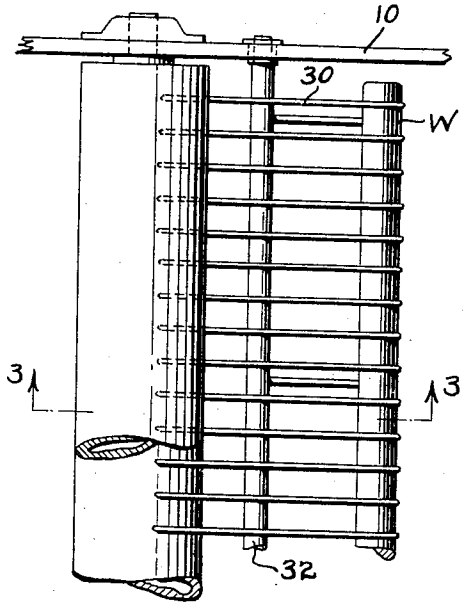
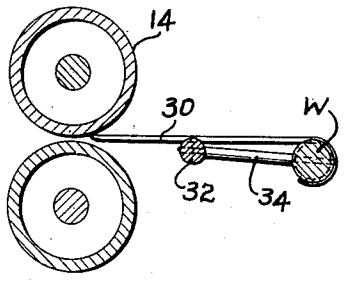


Fig. 3.



INVENTOR.
Wade H. Hames.
BY
Smithgall Fay & Hawley
ATTORNEYS.

Patented Nov. 15, 1932 1,887,507

UNITED STATES PATENT OFFICE

WADE H. HAMES, OF GADSDEN, ALABAMA, ASSIGNOR TO WHITIN MACHINE WORKS, OF WHITINSVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS

SPLIT LAP PREVENTER

Application filed July 30, 1931. Serial No. 554,066.

This invention relates to means for preventing the splitting of a lap or layer of cotton fibre as it is unwound from a lap roll. This splitting of the lap frequently occurs with the usual lap rolls under certain operating conditions and results in uneven carding and in otherwise defective productions.

It is the general object of my invention to provide improved means for effectively preventing such splitting of a lap or layer of fibre, by providing means for producing grooves or corrugations in one surface of the lap, which grooves or corrugations afford a distinct separating surface between adjacent lap layers.

A further object of the invention is to provide a construction in which the split lap preventing devices automatically adjust themselves to variations in thickness of the lap.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawing, in which

Fig. 1 is a sectional side elevation of a portion of a cotton picker and lapper;

Fig. 2 is a plan view of certain parts, looking in the direction of the arrow 2 in Fig. 1, and

Fig. 3 is a sectional side elevation, taken along the line 3—3 in Fig. 2.

Referring to the drawing, I have shown portions of a cotton picker and lapper, comprising a frame 10 in which is rotatably supported a cage roll 11, stripper rolls 12, a series of calender rolls 14, and feed rolls 15 on which a lap roller 16 is supported.

The fibre F is drawn by suction through a passage 20 leading from the interior of the picker and passes over the cage roll 11 and between the stripper rolls 12 in the usual manner.

The cage roll and stripper rolls are preferably mounted in a separate compartment 22, from which the air is exhausted by a fan 23. The fibre is passed from the stripper rolls 12 to the calender rolls 14, by which it is compressed into the form of a lap L which is thereafter wound around the lap roller 16.

My improved split lap preventing devices are mounted between the stripper rolls 12 and the first pair of calender rolls 14, and comprise a series of fingers 30 positioned substantially parallel to the path of travel of the fibre F and extending into the bight of the first or upper calender rolls 14.

The fingers 30 are preferably formed from separate wire rods resting on a cross bar 32, which is notched or grooved to laterally space and position the fingers 30. A weight W in the form of a relatively heavy cylindrical bar is mounted on arms 34 secured in the cross bar 32. The outer ends of the fingers 30 are bent to partially encircle the weight W and are thus held in assembled relation.

The cross bar 32 is pivotally supported in the opposite sides of the frame 10 of the machine, and the series of fingers 30 form a rocking grid or grating, with the free ends of the fingers yieldingly pressed upward by gravity against the under surface of the upper calender roll 14.

As the fibre F passes over the fingers 30 and between the upper pair of calender rolls 14, the portions of fibre engaged by the fingers are compressed firmly against the upper calender roll, thus producing grooves or corrugations in the under surface of the lap.

It is found in actual use that these grooves or corrugations are effective and satisfactory in providing a distinct separating surface between successive layers of the lap or fibre in the lap roll. Consequently when the lap is unwound, objectionable splitting of the lap is avoided.

Furthermore, it will be noted that the fingers 30 have a certain amount of free angular movement about the axis of the bar 32, so that the fingers may adjust themselves to variations in the thickness of the lap passing through the machine.

I have thus provided a very simple construction by which a lap of cotton or other fibre may be effectively grooved or corrugated in such manner that splitting of the lap will be prevented.

Having thus described my invention and

the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:—

1. In a cotton picker and lapper, in combination, stripper rolls, calender rolls, and devices mounted between said stripper rolls and said calender rolls effective to prevent splitting of the lap, said devices comprising a plurality of laterally spaced parallel fingers, a freely pivoted support for all of said fingers, and means acting on and through said support and thereby effective to move the free ends of said fingers yieldingly and collectively toward the under surface of the upper calender roll thereby pressing the lap against said upper roll along laterally spaced lines and producing grooves or corrugations in the under surface of the lap, the pressure of the fingers against the lap being substantially uniform and independent of variations in lap thickness.

2. In a cotton picker and lapper, in combination, stripper rolls, calender rolls, and devices mounted between said stripper rolls and said calender rolls effective to prevent splitting of the lap, said devices comprising a plurality of laterally spaced parallel fingers, a freely pivoted support for all of said fingers, and a weight acting on said support and thereby effective to move the free ends of all of said fingers yieldingly toward the under surface of the upper calender roll, thereby pressing the lap against said upper roll along laterally spaced lines and producing grooves or corrugations in the under surface of the lap, the pressure of the fingers against the lap being substantially uniform and independent of variations in lap thickness.

3. The combination in a cotton picker and lapper as set forth in claim 2, in which each finger is formed from a single piece of wire rod with its free end extending into the bight of the upper pair of calender rolls, and in which the weight is in the form of an elongated bar around which the opposite ends of all of said fingers are secured.

4. The combination in a cotton picker and lapper as set forth in claim 2, in which the fingers are formed of wire rods extending over and supported by said pivoted support in positions substantially parallel to the path of movement of the cotton fibre, and in which the weight is in the form of an elongated bar mounted on arms extending from said pivoted support, the free ends of said fingers extending into the bight of the upper pair of calender rolls, and the opposite ends of said fingers being looped about said weight bar.

In testimony whereof I have hereunto affixed my signature.

WADE H. HAMES.