

(No Model.)

W. H. MORGAN.  
LAP SMOOTHING DEVICE FOR COTTON PICKERS.

No. 463,533.

Patented Nov. 17, 1891.

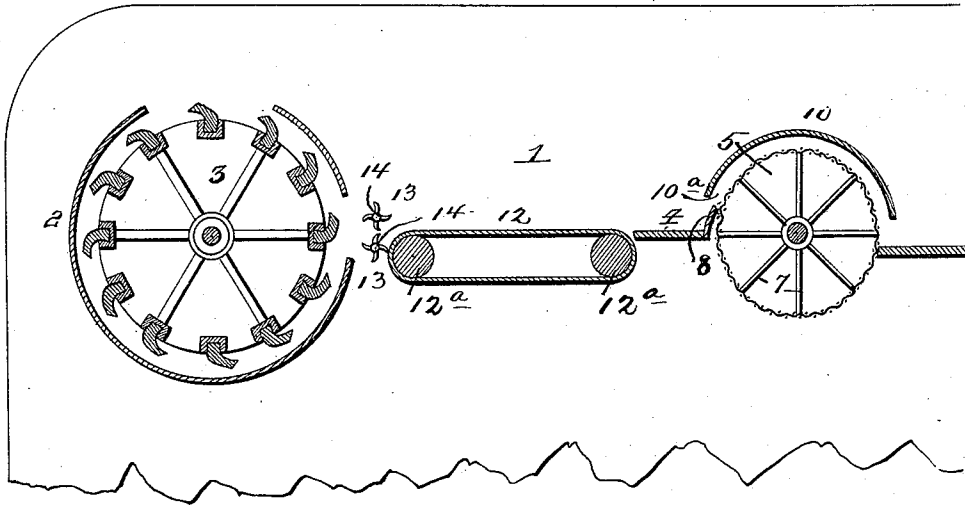


Fig. 1.

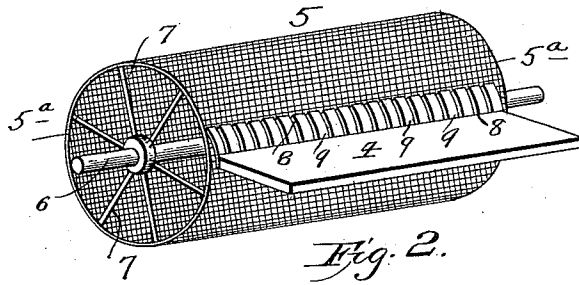


Fig. 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM H. MORGAN, OF WARE, MASSACHUSETTS.

## LAP-SMOOTHING DEVICE FOR COTTON-PICKERS.

SPECIFICATION forming part of Letters Patent No. 463,533, dated November 17, 1891.

Application filed November 22, 1890. Serial No. 372,284. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. MORGAN, a citizen of the United States, and a resident of Ware, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Lap-Smoothing Devices for Cotton-Pickers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to lap-smoothing devices for cotton-pickers.

In cotton-pickers as now ordinarily constructed a lap of cotton is formed therein, being 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 collecting-cages, which are provided with revolving cage-rolls, which form, smooth, and straighten the laps. From these cages the lap is conducted to and wound upon calendering-rollers, preparatory to being subjected to the action of the carding-engine.

It frequently happens, especially in damp or muggy days, that the laps wound upon the calendering-rolls 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. This is owing principally to the irregular manner in which the lap is laid by the cage-roll.

The object of my invention is to obviate the above defect by providing simple, economical, and efficient apparatus, which will lay the lap coming from the picker in a smooth, even, regular, and uniform manner, whereby there will be no danger of sticking when wound upon the calender-rolls.

The invention consists in the novel construction and arrangement of parts hereinafter fully described, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a central longitudinal sectional view showing

a cotton-picker and a collecting-cage constructed according to my invention. Fig. 2 is a perspective view of the cage-roller, also showing the fiber race and smoother.

In the said drawings the reference-numeral 1 designates the frame of the apparatus, 2 the picker-cylinder casing, and 3 the revolving beater located therein, which constitutes the picker. This picker may be of any of the various forms or constructions now in general use, and forms no part of my invention.

The numeral 5 designates the cage-roll, consisting of a cylinder of wire-gauze or perforated metal, connected with end bands or rings 5<sup>a</sup>, which in turn are connected with the shaft 6 by means of the radial arms 7. In front of the cage-roll is located a fiber-race 4, consisting of a transverse plate of metal, leather, or other suitable material, the ends of which are secured to the frame 1, and above the cage-roll is a casing 10. Instead of the cage-roll being made of wire-gauze or perforated metal, it may consist of parallel transverse wires secured to the wings 5<sup>a</sup>, with spaces therebetween. A fan is to be connected with the cage for the purpose of drawing the fiber onto the surface of the cage-roller.

Connected with the race-plate 4 is a smoother, consisting of a series of curved tongues 8, which project upwardly and rearwardly and lie upon the periphery of the cage-roll. There is a small space or interval 9 between each two adjacent tongues, and the tongues may be made of metal, leather, or other suitable material, and connected with the race-plate or frame in any convenient manner. They may be made separately or they may be formed integral with said plate, and they may be rough or smooth, according to the fiber being operated upon. At this junction of the race-plate and casing is a feed-opening 10<sup>a</sup>.

Intermediate the race 4 and the picker is an endless belt 12 for conveying the fiber from the feeders 13 to said race, said belt passing over rollers 12<sup>a</sup>, journaled in the frame 1. The feeders may consist of a series of fingers mounted upon shafts 14, revolving in opposite directions and located in close proximity to

the delivery-opening in the picker-casing. These features, however, form no part of my invention.

The operation is as follows: The lap of fiber 5 as it comes from the picker is caught by the feeders and fed to the conveyer-belt, which carries it to the race 4, from which it is fed to the cage. As it enters the cage through opening 10<sup>a</sup> it comes upon the smoother, the spaces 9 10 allowing the fiber to come in contact with the cage-roll, which will draw it along the tongues 8 into the cage, from whence it will engage and be carried to the calender-rolls. By means of 15 this smoother the fiber is laid down smooth and regular and the finished lap is uniform throughout, allowing it to be wound upon the calender-rolls and unwound therefrom without liability of cleaving or splitting.

Suitable driving-pulleys and belts will be

connected with the beater and cage-rolls for 20 imparting motion thereto, as is usual, and therefore need not be illustrated.

Having thus described my invention, what I claim is—

An attachment for cotton-pickers, consist- 25 ing of a reticulated roll and a casing, a fiber-race located in front of said roll, and a series of tongues with spaces therebetween connected or formed with said race and lying upon the 30 periphery of said roll, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM H. MORGAN.

Witnesses:

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