(No Model.)

W. H. GOLDSMITH.

COTTON WASTE PICKER.

No. 419,434. Patented Jan. 14, 1890.

Fig. 1.

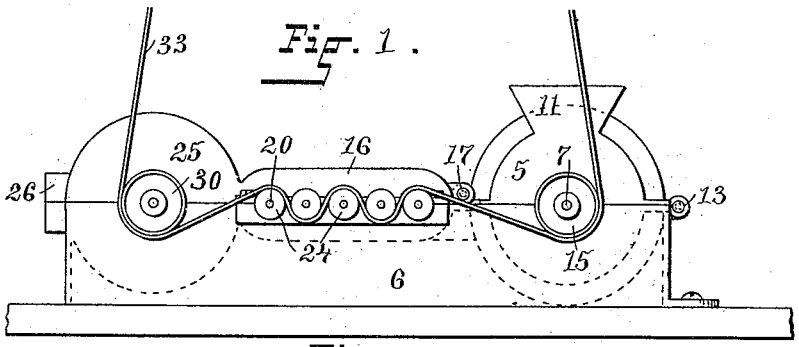


Fig. 2.

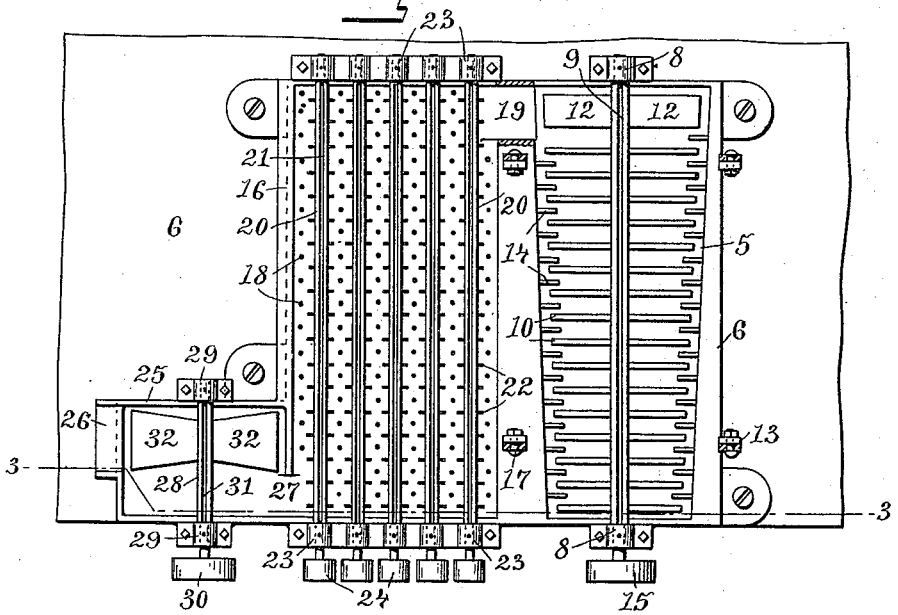
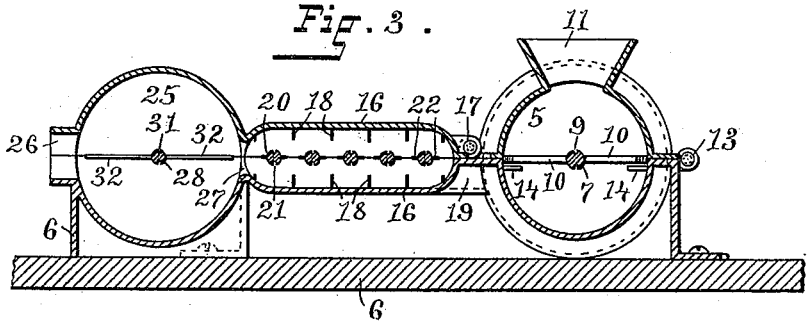


Fig. 3.



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WILLIAM H. GOLDSMITH, OF FALL RIVER, MASSACHUSETTS.

COTTON-WASTE PICKER.

SPECIFICATION forming part of Letters Patent No. 419,434, dated January 14, 1890.

Application filed June 8, 1887. Serial No. 240,592. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GOLDSMITH, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Cotton-Waste Pickers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a machine for picking and separating the threads and the unspun short fiber from the ordinary cotton waste of cotton machinery.

The objects of my invention are to provide an efficient and compact cotton-waste picker which will perform its work with great rapidity.

To the above purposes my invention consists in the peculiar and novel arrangements and constructions of the several parts of the device, all as hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view of my improved picker mounted upon a frame or work-table and provided with a driving-belt, shown in portion. Fig. 2 is a top plan view of the device shown in Fig. 1 with the tops or hoods of the respective beater-drum, casing, and suction-cylinder removed. Fig. 3 is a sectional view of the picker, taken on line 3 3 in Fig. 2.

In the said drawings like numbers of reference designate corresponding parts throughout.

Referring to the drawings, the number 5 designates the beater-drum, which is frusto-conical shaped and is mounted horizontally upon the frame or table 6. The upper half of the drum 5 opens on the hinges 13, and 11 is the feed-opening through which the waste is introduced into the drum. The rotary beater-shaft 7 is formed with the longitudinal thread-stripping grooves 9, and is provided with the radially-disposed beater-arms 10, which are arranged in opposite lines along the shaft, and the ends of the arms form break-joints with the short inwardly-projecting pins 14, which are set in rows upon the interior of the drum 5, as shown. The beater-shaft 7 is mounted in the bearings 8 and is provided with the band-pulley 15, and upon the end of the shaft remote from the feed end of the drum are fastened the pair of radially-arranged fans 12 for the purpose of creating a draft from the feed-opening to the other end of the drum.

The casing 16 is flat and broad, and the top thereof is hinged at 17. Upon the interior of the casing are fixed a great number of the short pins 18, and this casing is in communication with the end of the beater-drum remote from the feed-opening thereof by means of the narrow passage 19, which is within the sweep of the fans 12, which serve to blow the beaten cotton waste directly through the passage into the casing.

The set of rotary thread-catching bars 20 are each formed with the longitudinal stripping-grooves 21 and provided with very short spines 22, projecting from the bars. These bars are placed in a horizontal plane and extend through the sides of the casing 16 and are journaled in the external bearings 23, and each one is provided with a band-pulley 24 for driving the bar.

The suction-cylinder 25 is mounted horizontally in the frame 6 at one end of the casing 16, and is provided with the discharge-opening 26, and is formed with the passage 27, which opens into the casing 16 at the end thereof remote from the passage 19.

In the cylinder 25 is a rotary shaft 28, which turns in the external bearings 29 and is provided with the band-pulley 30. The shaft 28 is formed with the longitudinal stripping-grooves 31 and is provided with the suction-fans 32 near one end thereof. These fans 32 sweep across the discharge-opening 26, but are placed to one side of the passage 27.

The beater-shaft, thread-catching bars, and the suction-fans are driven by means of the driving-belt 33, (shown in part in Fig. 1,) and which is banded about the several band-pulleys, as shown.

The operation of the picker is as follows: The picker being closed, and the beater, the thread-catching bars, and the suction-fan being started, the cotton waste is fed into the feed-opening 11. The fans 12 draw the waste along the drum while it is being acted on by the beater and pins 14, and then force it

through the passage 19 into the casing 16, through which it is quickly sucked by the action of the suction-fans 32 into the suction-cylinder 25, and thence it is blown by the same fans 32 out of the discharge-opening 26. In passing through the picker the waste has been opened and separated into the threads, which become lodged about the beater-shaft, the thread-catching bars, and the shaft of the suction-fans, and into the short unspun fiber, which is delivered from the discharge-opening 26 in a picked and cleaned condition. The threads which become entangled about the beater-shafts, the bars, and the fan-shaft are to be removed by running a knife along the stripping-grooves of the respective parts.

In the operation of the picker I find that the casing 16 and its set of short pins 18, together with the thread-catching bars 20 and their short spines 22, prove very efficient features in the combined device.

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

1. The combination, as hereinbefore set forth, with a beater-drum having a feed-opening and provided with a rotary beater-shaft having radially-disposed beater-arms and a fan mounted thereon, of a casing communicating with the beater-drum at the end remote from the feed of said drum, a set of rotary thread-catching bars placed within the casing and formed with stripping-grooves and provided with short radial spines, and a cylinder provided with a suction-fan and having a discharge-opening, and having a communication with the said casing at the end thereof remote from the communication of the beater-drum, substantially as and for the purpose herein described.

2. The combination, as hereinbefore set forth, with a beater-drum provided with a feed-opening and having a set of short inwardly-projecting pins upon the interior walls thereof, and a rotary beater-shaft within the drum and provided with radial beater-arms and having fans mounted at one end thereof, of a casing communicating with the end of the beater-drum remote from the feed-opening, a set of short inwardly-projecting pins disposed upon the interior of the casing, and a set of rotary thread-catching bars within the casing, the bars provided with longitudinal thread-stripping grooves and having short radial spines disposed thereon, a suction-cylinder provided with a suction-fan and having a discharge-opening, and the cylinder in communication with the said casing at the end thereof remote from the communication with the beater-drum, substantially as herein described.

3. The combination, as hereinbefore set forth, with the beater-drum 5, having the feed-opening 11 and provided with the inwardly-projecting pins 14, and the rotary beater-shaft 7, provided with the beater-arms 10 and the fans 12, of the casing 16, in communication with the beater-drum 5 by means of the passage 19 and provided with the set of rotary thread-catching bars 20, each formed with the longitudinal stripping-grooves 21, and each provided with the set of short spines 22, and the suction-cylinder 25, having the discharge-opening 26 and communicating with the casing 16 by means of the passage 27, and provided with the rotary suction-fans 32, substantially as and for the purpose herein described.

4. The combination, as hereinbefore set forth, with the beater-drum 5, having the feed-opening 11 and provided with the inwardly-projecting pins 14, and the rotary beater-shaft 7, provided with the radial beater-arms 10 and the fans 12, of the casing 16, having the passage 19 intermediate the drum and the casing, the said casing having the fixed pins 18 disposed upon the interior thereof and provided with the set of thread-catching bars 20, each formed with the stripping-grooves 21, and each provided with the short spines 22, the suction-cylinder 25, having the discharge-opening 26, and the passage 27, communicating with the casing and provided with the rotary shaft 28, formed with the thread-stripping grooves 31, and provided with the suction-fans 32, substantially as and for the purpose herein described.

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