Sept. 14, 1926. **1,599,863**

W. E. BAKER

COTTON CLEANER

Filed May 31, 1924 3 Sheets-Sheet 1

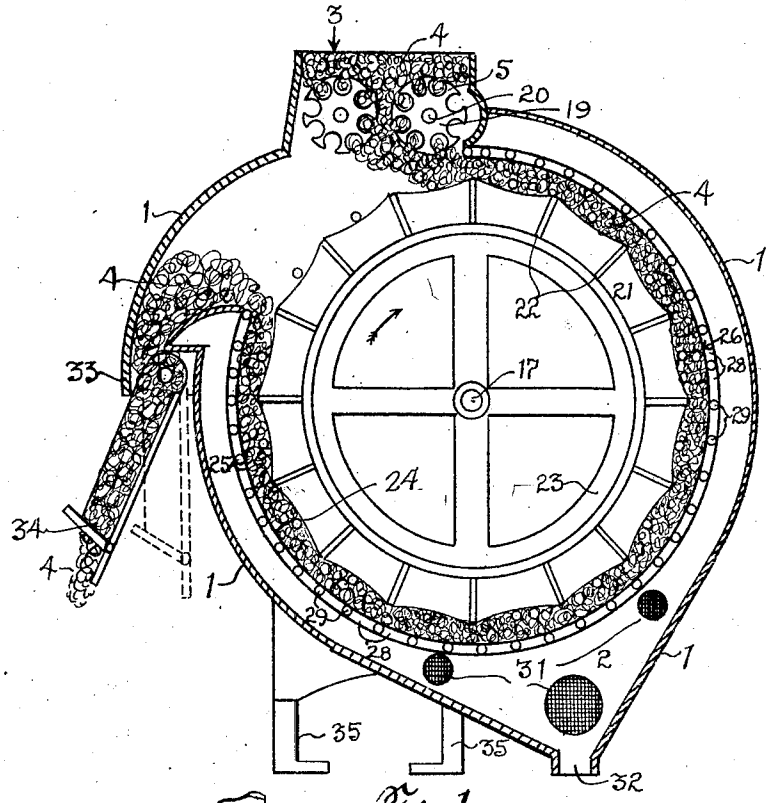


Fig. 1.

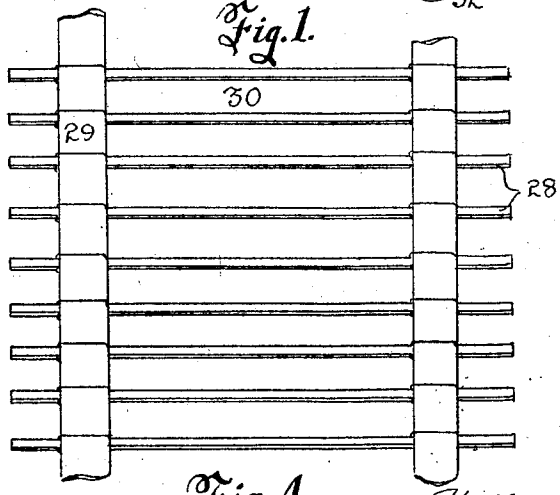


Fig. 4.

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COTTON CLEANER

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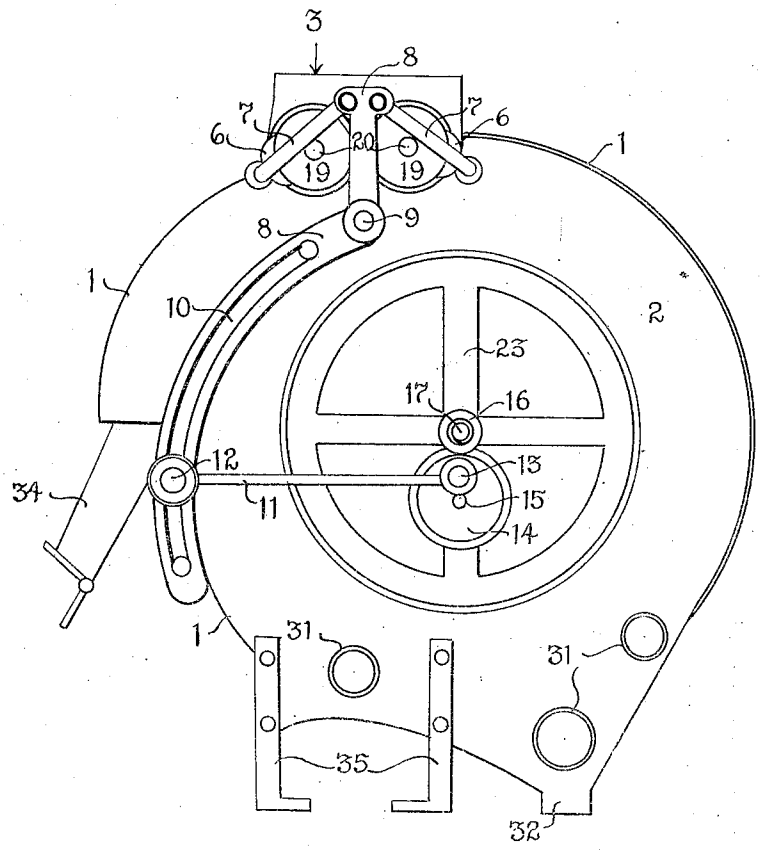


Fig. 2.

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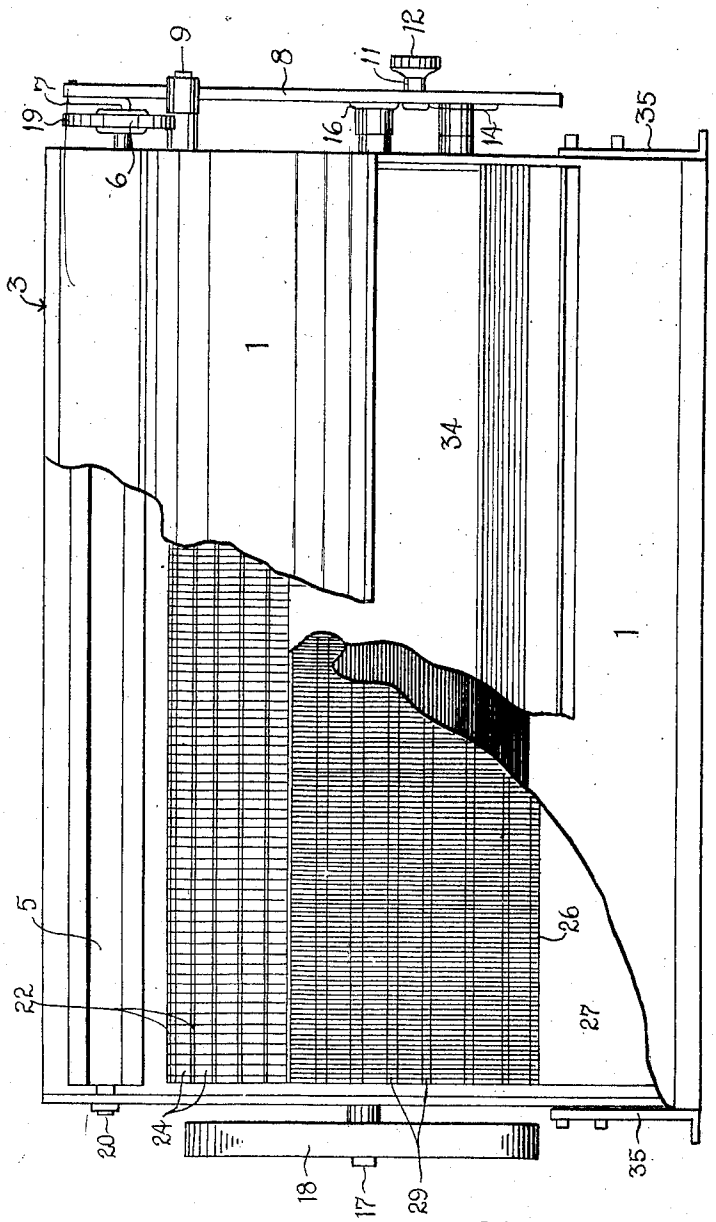


Fig. 3.

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Patented Sept. 14, 1926. 1,599,863

UNITED STATES PATENT OFFICE.

WILLIAM E. BAKER, OF WACO, TEXAS.

COTTON CLEANER.

Application filed May 31, 1924. Serial No. 717,083.

This invention relates to cotton cleaners and refers more particularly to a cleaner which will clean lint cotton without tearing the lint apart or causing injury to the cotton.

The primary object of the invention is to provide a cleaner which will separate trash and all foreign matter from the cotton without damage to the cotton and without the use of picker rolls or spikes.

Another object is to provide a cleaner which will have a more efficient cleaning arrangement.

Features of the invention is the simplicity of construction and operation.

Other objects and features as well as the advantages above set forth will be described more in detail in the course of the following description, of which the annexed drawings form a part and in which—

Figure 1 is a side elevation of the invention in cross section.

Figure 2 is a side elevation.

Figure 3 is a front elevational view of the invention with part cut away to show the arrangement of certain elements which will be described more in detail hereinafter.

Figure 4 is a detail view of a section of the wire cleaning mesh.

Similar characters of reference are used to indicate the various new and novel elements and features of the invention throughout the different views shown in the accompanying drawings, in which 1 denotes the outside housing which is fitted around the ends 2. This forms a drum with a suitable opening 3 formed in the top thereof to receive the cotton 4.

The cotton is fed into the machine by fluted rolls 5 as are commonly used, and which are automatically operated by ratchet 6 mounted on arm 7. These arms are pivoted at their other ends in the top of the rocker arm 8, which is in turn pivoted to the end of the frame 2 upon a pin 9. The rocker arm has a slot 10 in its lower portion, curved in such a manner that a drive rod 11 may be adjusted up and down therein by means of pin 12 to regulate the speed of the feeder. The other end of this drive rod is pivoted on crank pin 13 which is fastened to gear wheel 14. The pin 15 acts as a shaft for the said gear 14, having its ends fastened in the end pieces 2.

This gear mechanism is normally in mesh with a pinion gear 16 fastened to the center shaft 17, the latter being driven by a pulley 18 fastened on its other end. This propels the feeding arrangement, the rocker arms oscillate back and forth, with each stroke the ratchets 6 pull forward on feeder gears 19 which are in mesh and are situated on the fluter roll shafts 20. The rolls deposit the cotton upon the face of the cleaning drum 21, which has incorporated in its construction, paddles or fan wings 22 which extend the entire length of the drum and whose ends are fastened to the end portions 23. These end portions are fastened upon the center shaft 17.

When the shaft 17 aforesaid is rotated, the paddles 22 create a current of air from the central openings provided in portions 23 and drum heads 22^a, through wire fabric 24 which forms the face of the drum 21, the wires being fastened to the outer edges of the paddles 22. The cotton is carried between this space and a wire fabric cleaning surface 25, which form a fabric wall 26, spaced suitably toward the axial shaft from housing 1 to provide a dirt and trash chamber 27. The wire is formed with strands 28, binding ribs 29, to make a long and narrow mesh 30, this mesh extending around in the spacing referred to within the cylinder. Thus with the drum or cylinder rotating in the direction of the arrow as shown in Figure 1, the cotton 4 will be carried around by the friction of the fabric face of the drum 21 against the mesh wall 26.

This mesh wall 26 is stationary and has the effect of rolling the cotton over and over in its passage as the cotton strikes the ribs 29, the dirt and trash is shaken loose and is blown out of the cotton into the dirt chamber 27 and the air is blown out through the screen ports 31.

The dirt and trash removed from the cotton settle down in the bottom 32 through an opening provided for a suitable conveyor.

It should be understood that the cotton does not travel as rapidly as does the drum 21, but is fanned or worked around in the cotton chamber and is thrown out into outlet 33 and thence out into apron 34, formed preferably as indicated by dotted lines in Figure 1. This device has adjustable legs 35, to enable it to be fitted to gins of different types.

It should be understood that the size of the mesh may vary as well as the size of the other elements forming the invention but

that the particular arrangement as in regard to these elements should be maintained to secure more favorable results.

What is claimed is:

1. In a cleaner for lint cotton, a container having an inlet in its top and an outlet chute at one side, and a waste outlet in its bottom, means for feeding cotton through said inlet, a rotatable drum extending longitudinally within the container, radial longitudinal blades on the exterior of the drum, a wire mesh arranged about the drum upon the ends of the blades, and a perforate wall disposed between the drum and container wall and enclosing a portion of said drum.

2. In a cleaner for lint cotton, a rotatable drum, a series of radial longitudinal, circumferentially spaced blades fixed to the exterior of the drum, and a wire mesh arranged about the periphery of the drum and attached to the outer edges of said blades.

3. In a cleaner for lint cotton, a container having an inlet in its top and an outlet chute at one side, and a waste outlet in its bottom, means for feeding cotton through said inlet, a rotatable drum extending longitudinally within the container, radial longitudinal blades on the exterior of the drum, a wire mesh arranged about the drum upon the ends of the blades, and a perforate wall disposed between the wire mesh and container wall and extending about a major portion of the drum terminating adjacent the cotton inlet and outlet.

In testimony whereof I have signed my name to this specification.

WILLIAM E. BAKER.