

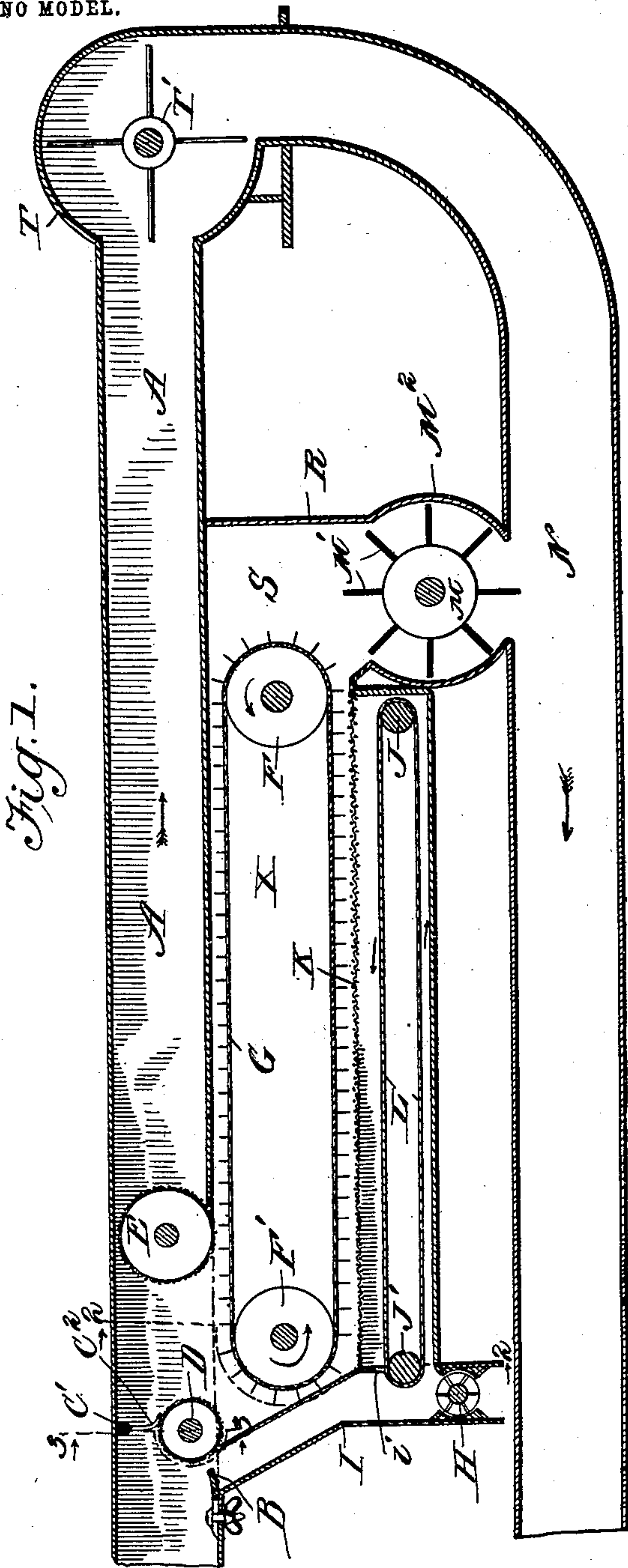
No. 730,763.

PATENTED JUNE 9, 1903.

E. B. HAM.
COTTON CLEANER.

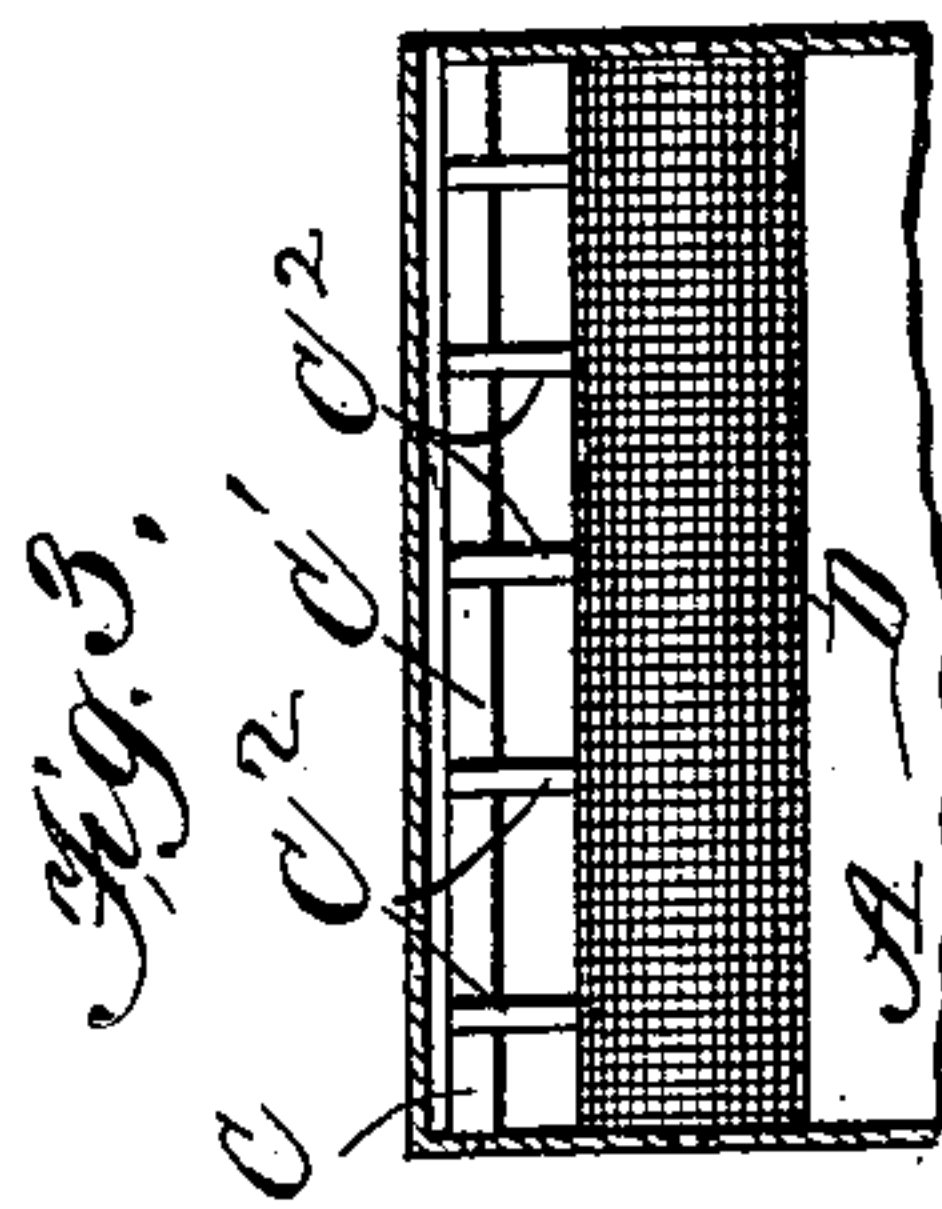
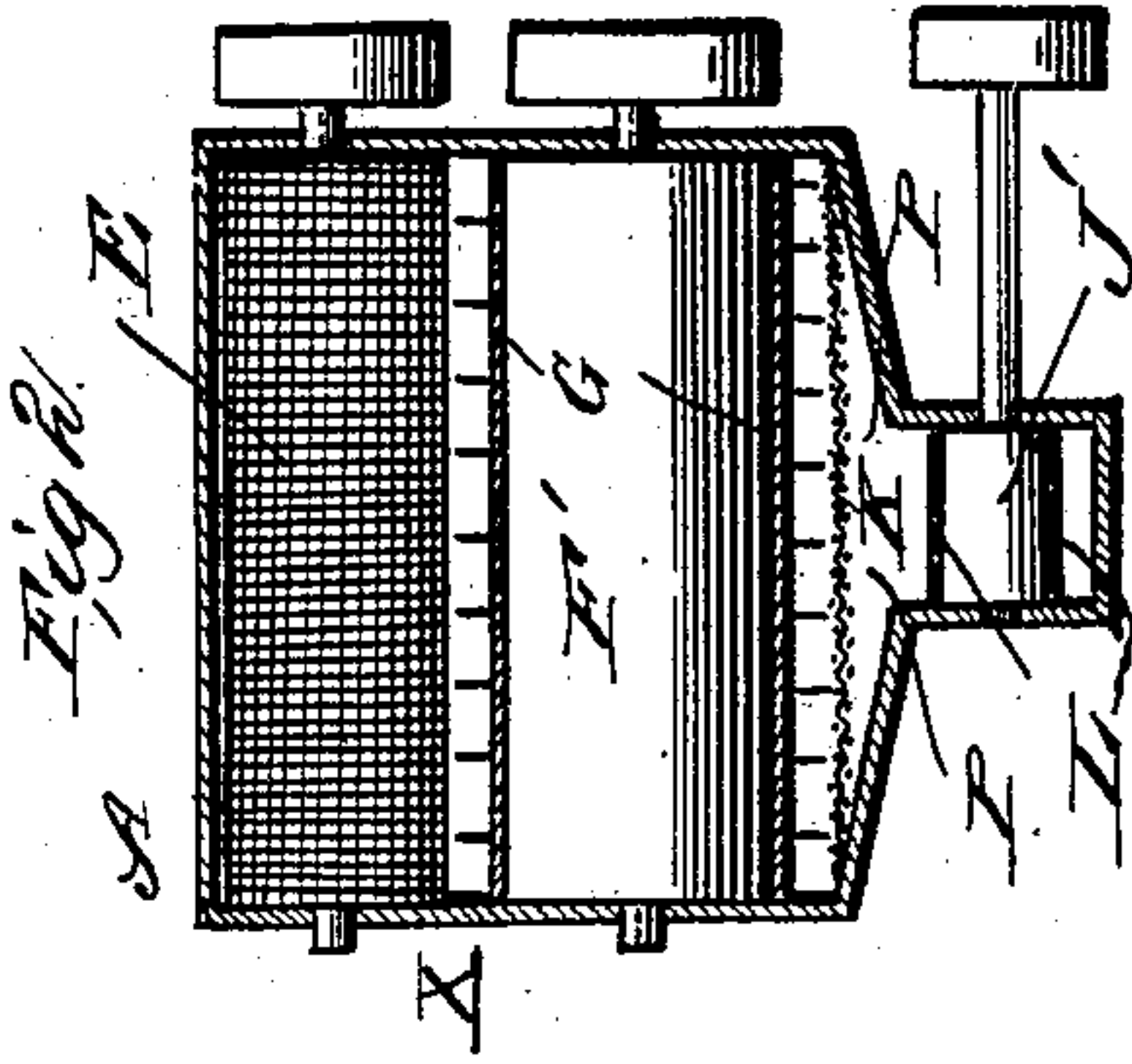
APPLICATION FILED JULY 14, 1902.

NO MODEL.



WITNESSES:

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ELIJAH B. HAM, OF JENNINGS, OKLAHOMA TERRITORY.

COTTON-CLEANER.

SPECIFICATION forming part of Letters Patent No. 730,763, dated June 9, 1903.

Application filed July 14, 1902. Serial No. 115,458. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH B. HAM, of Jennings, in the county of Pawnee, Oklahoma Territory, have invented a new and useful Improvement in Cotton-Cleaners, of which the following is a specification.

My invention relates to an improvement in cotton-cleaners, and has for its object to produce a simple, cheap, and efficient cleaner that may be used either in connection with an unloader or with the gin-house suction.

My invention consists in the novel construction and combination of parts, as will be hereinafter fully shown and described, and pointed out in the claims.

In the drawings, Figure 1 is a longitudinal section. Fig. 2 is a transverse section on line 2 2 of Fig. 1. Fig. 3 is a transverse section on line 3 3 of Fig. 1.

For convenience I will here illustrate my invention as used in connection with the suction-pipe of the unloader. In the drawings, A A represent said pipe, and my improvement, which consists of the casing X, containing the various working parts, may be located at any point in said pipe between the entrance end and an exhaust-fan in said tube or pipe. At a suitable point I connect an angled conveyer-tube I with the suction-pipe A, said tube I being oblique throughout a portion of its length and the remainder or lower portion being vertical. At the point of junction of pipe A and tube I is arranged a horizontal adjusting-board B, which is curved slightly upwardly at its forward end *b*, it being adjustably held at the mouth of the tube I by a screw-bolt working in a slot in the tube A and held by a winged nut or by other suitable means. The purpose of said board B is to cause the removal of all heavy substances—such as rock, bolts, nails, and wire—by opening or closing the space back of the cylindrical screen D, which is located in the suction-pipe A and the casing X, adjacent to the open upper end of the conveyer-tube I. Said heavy substances drop into conveyer-tube I and are carried to separator H, located in the lower end of conveyer-tube I, and are discharged, thus allowing the cotton which has been fed into the suction-pipe A to be drawn in and pass over cylindrical screen D.

Located above the cylinder D is a spreader C, which consists of a horizontal shaft C', pivotally secured at each end and is provided with the downwardly-extending curved fingers C², which hang over the screen D. By means of the spreader-fingers the cotton may be spread over any width desired.

Mounted in the suction-pipe in front of the screen at D a suitable distance therefrom is a revolving screen-drum E, which is driven by a pulley on one end of the axis outside the pipe A.

Located below the screen-drum E is the picker-belt G, which is provided with the teeth *g*. Said picker-belt passes over the pulleys F F'. The rear one, F', of said pulleys is located at a point below and between the screen D and the screen-drum E and adjacent to the oblique front wall of tube I, and the forward pulley F is located at a suitable point toward the forward part of the casing. A horizontal screen K is suitably supported beneath the entire length of the picker-belt, and the front end of said screen K is located above and adjacent to a separator M, which will be hereinafter described.

Below the screen K is a hopper P, and at the bottom of said hopper is a conveyer-belt L, the upper run of which is adapted to move toward the rear of the device, said conveyer-belt passing around rollers J J', the front one of which, J, lies under the front end of screen K, and the rear one, J', is mounted in a slot in the front wall of the vertical portion of conveyer-tube I. A suitable-sized opening *i* is made in the front wall of tube I immediately above the roller J', whose periphery extends within the said tube I at a suitable distance above the separator H.

M represents a separator for receiving and discharging cotton as it is received from picker-belt G. Said separator M is located at the front end of screen K and communicates at its lower portion with the exhaust-pipe N. This separator consists of the cylinder M and the rubber wings M', held in a casing M². A vertical partition R extends upwardly from the frame of the separator to the suction-pipe A, thus forming a hopper-chamber S above the said separator M.

At the forward end of the suction-pipe A

is located a suction fan-chamber T, in which is mounted the fan T', and extending downwardly and rearwardly from the fan-chamber is the exhaust-pipe N, said pipe having communication with the separator-chamber M² and then continuing rearwardly to the point desired.

The operation of the device is as follows: Cotton to be cleaned is fed into the rear end W of suction-pipe A, and the board B having been properly adjusted any rocks, bolts, nails, wire, or other heavy particles which may be mixed with the cotton will by their superior weight drop into the conveyer-tube I and pass to the separator H and are then discharged from said tube I. The cotton is then drawn against and over the screen D, being spread by the spreader-fingers C², and is then drawn forward and meets the screen-drum E and is piled up in front thereof, by which it is forced onto the picker-belt G below the air-line of suction-pipe A, so that from this point the cotton is not affected by the air-suction. The picker-belt, the upper run of which moves rearwardly, conveys the cotton received from the screen-drum E, carries it around pulley F and down to and along the screen K, any foreign substances still remaining in the cotton passing through the said screen K onto the conveyer-belt L and are by said conveyer carried to the tube I and into separator H. The cotton being carried along the screen K by the picker-fingers is delivered to the separator M in a clean condition. From the separator M the cotton is discharged into the exhaust-pipe N when, as in the present instance, the device is used on an unloader. When the device is to be used in connection with the gins, the exhaust is to be disconnected from the device and the separator M set directly over the air-distributor or belt-distributor, as the case may be.

It will be observed that the bottom of the suction-pipe A is omitted from the rear wall of the conveyer-tube I and front of the screen-drum E and that it begins again immediately in the rear of said screen-drum and quite close to the circumference thereof, but at a distance above the picker-belt G, so that said picker-belt is below the air-line of said suction-pipe A.

The device is closed below the conveyer-belt L.

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

1. A cotton-cleaner comprising a suction-tube, a casing located in said suction-tube between the intake end thereof and the suction-fan, and consisting of a downwardly-extending trash-discharge tube, a cylindrical screen at the mouth of said tube, a spreader held above said screen, a rotating screen-drum in front of said screen, an endless horizontal picker-belt traveling rearwardly beneath said screen-drum and adjacent thereto but below the air-line of the suction-tube, a horizontal

screen below said picker-belt and adjacent thereto, and a separator located at the front end of the horizontal screen.

2. A cotton-cleaner comprising a suction-tube, a casing located in said suction-tube between its entrance and discharge ends, and consisting of a downwardly-extending trash-discharge tube, a cylindrical screen at the mouth of said discharge-tube and adjacent thereto, a rotating screen-drum in the suction-tube in front of said cylindrical screen, an endless horizontal picker-belt below the screen-drum and adjacent thereto, a horizontal screen below said picker-belt and adjacent thereto, an endless conveyer below said horizontal screen, said endless conveyer feeding into the trash-discharge tube, and a separator at the front of the horizontal screen, said separator discharging into an exhaust-pipe.

3. A cotton-cleaner comprising a suction-tube, a casing located in said suction-tube between its entrance and discharge ends and consisting of a downwardly-extending trash-discharge tube, a cylindrical screen at the mouth of said tube and adjacent thereto, a pivoted spreader above said screen, a rotating screen-drum mounted in the suction-tube in front of said cylindrical screen, an endless picker-belt below said screen-drum and adjacent thereto, but below the air-line of said suction-tube, a horizontal screen below said picker-belt and adjacent thereto, a hopper below said horizontal screen, an endless conveyer at the bottom of said hopper, said endless conveyer feeding into the trash-discharge tube, a separator at the lower end of the trash-discharge tube, and a separator at the front end of the horizontal screen.

4. A cotton-cleaner comprising a suction-tube, a casing located in said suction-tube between its intake and discharge ends, and consisting of an inclined trash-discharge tube extending downwardly from said suction-tube, a cylindrical screen at the mouth of the trash-discharge tube, a rearwardly-rotating screen-drum in the suction-tube in front of said cylindrical screen, an endless picker-belt traveling rearwardly beneath the screen-drum and adjacent thereto, said picker-belt passing around pulleys the rear one of which is adjacent the rear inclined wall of the trash-discharge tube, a horizontal screen beneath the picker-belt and adjacent thereto, an endless conveyer below the horizontal screen, said conveyer discharging into the lower end of the inclined trash-discharge tube, and a separator located at the front end of the horizontal screen and receiving the cotton therefrom, said separator having connection with an exhaust-tube.

5. A cotton-cleaner comprising a suction-tube, a casing located in said suction-tube between its intake and discharge ends and consisting of an inclined trash-discharge tube, an adjusting-board at the mouth thereof, a cylindrical screen adjacent to the mouth of

5 said discharge-tube, swinging spreader-fingers above said cylindrical screen and resting thereon, a rearwardly-rotating screen-drum mounted in the suction-tube in front of said cylindrical screen, an endless picker-belt below said rotating screen-drum and adjacent thereto, but below the air-line of the suction-tube, a horizontal screen below the picker-belt, an endless conveyer below the horizon-

tal screen, said endless conveyer discharging into the lower end of the inclined trash-discharge tube, a separator at the front end of the horizontal screen, said separator discharging into an exhaust-pipe.

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Witnesses:

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