

No. 869,703.

PATENTED OCT. 29, 1907.

N. A. GASTON.
COTTON PICKER.

APPLICATION FILED SEPT. 7, 1906.

Fig. 1.

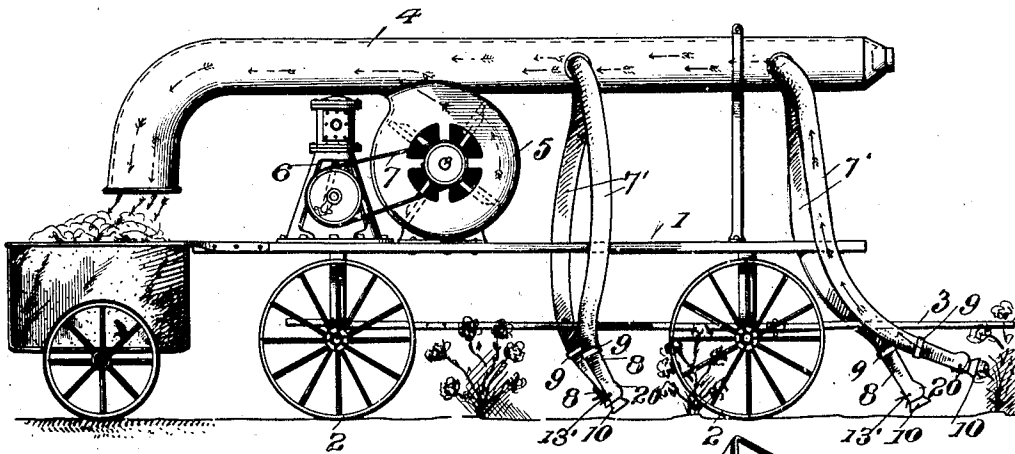


Fig. 2.

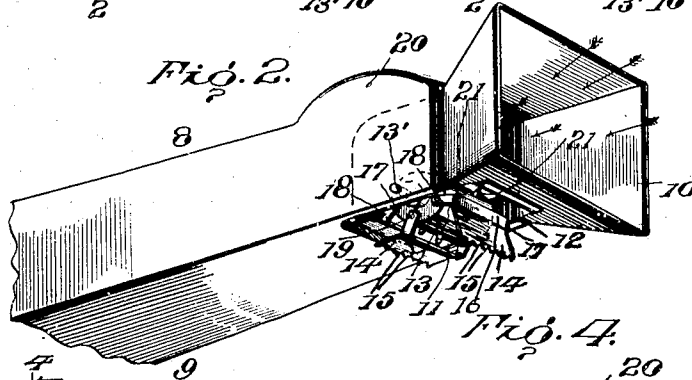


Fig. 3.

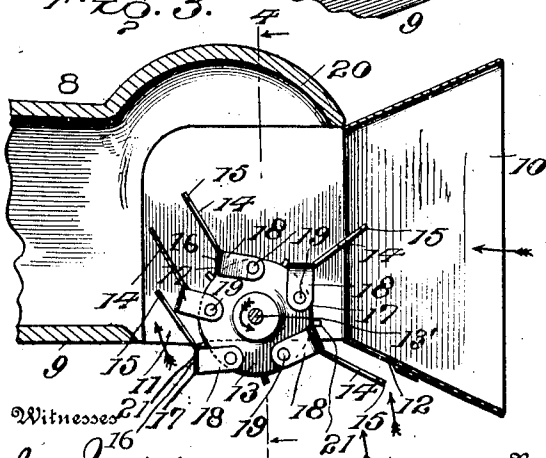
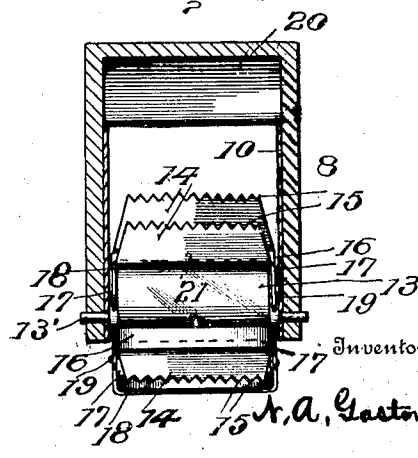


Fig. 4.



Witnesses
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COTTON-PICKER.

No. 869,703.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed September 7, 1906. Serial No. 333,698.

To all whom it may concern.

Be it known that I, NATHAN A. GASTON, a citizen of the United States, residing at Gulfport, in the county of Harrison and State of Mississippi, have invented certain new and useful Improvements in Cotton-Pickers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in cotton-pickers, and pertains more particularly to pneumatic pickers.

The object of my invention is to provide a picker of this character, in which the suction for drawing the cotton inwardly also operates the pickers, and thus dispenses with the usual belts or gearing for driving each picker.

Another object of my invention is to provide a more simple, cheap and effective cotton picker of the character described and shown.

In the accompanying drawings, Figure 1, is a side elevation of my improved pneumatic picker, showing it connected to a vehicle having suction means. Fig. 2, is an enlarged perspective view of the improved picker proper. Fig. 3, is a longitudinal vertical sectional view of Fig. 2, and Fig. 4, is a transverse vertical sectional view taken on the line $x-x$ of Fig. 3.

Referring now to the drawings, 1 represents the truck supported upon wheels 2 in any desired manner, and provided with draft means 3 by means of which the picker is drawn along between the rows of cotton. The said truck has supported thereabove the longitudinally extending horizontal tube or cylinder 4 which has connected thereto a fan drum 5 by means of which a suction is caused within the tube 4 from the forward end towards the rear end. Carried by the truck is an engine 6 which is preferably of the gasoline type, and by means of a chain 7 the fan is rapidly driven for causing the necessary suction, as will be hereinafter described. While I have shown a gasoline engine for running the fan, or suction pump, it is understood that any desired form of engine may be used.

The tube 4 has connected thereto a number of flexible tubes 7' which carry at their outer ends the pickers 8 which form the principal part of my invention. The tubes 7' may be of any desired number and extend from both sides of the tube 4 in order that two rows of cotton can be picked at one operation, as will be hereinafter more fully described.

The pickers 8, are secured to the ends of the tubes 7', and are detachably secured to the tubes so that should a picker become broken or otherwise disabled, it can be removed and replaced by a new picker. The said picker 8 is made of a cast box-like or cylindrical-shaped member which is provided at its inner end with a socket-like portion 9, by means of which it is secured to the flexible pipe, as heretofore described. The outer

end of the picker proper is provided with an outwardly flared portion 10 forming the mouth of the picker, and into which the bulk of cotton is inserted. One side of the picker 8 and also the flared mouth, are cut away, as indicated at 11 and 12, and the body of the picker adjacent the opening 11 is provided with a drum 13 which is revolvably mounted and adapted to freely rotate. The drum, as shown, is so mounted within the picker tube 8 that it extends out through the opening 11 therein, as will be now described. The said drum 13 is provided with a series of picker blades 14 which, as shown, are of an elongated form, and have their outer edges provided with serrations or teeth 15 which engage the cotton and pull it from the bolls. The inner edge of the blades are provided with a portion 16 bent at a slight angle to the blade, and the ends of the said bent portion extend a considerable distance beyond the blades, and are bent at right angles thereto, as indicated at 17, and form the ears 18 which extend over the ends of the drum and are secured thereto by pivots 19. By this structure it will be seen that the picker blades are adapted to swing upon the drum for the purpose hereinafter described. The said drum 13 is provided with radially-extending pins 21 which are so positioned that the portion 16 of the blades engages the same, and limits the movement of the blade during the suction action on the blades.

The opposite side of the tube or cylinder 8 is provided with a bulged portion 20 which is directly opposite to the revolving drum, and which allows the cotton to be carried around by the picker blades. This bulged portion is preferably as shown, of a semi-circular form and is formed integral with the tube 8.

In operation, the engine is started which causes a suction through the tube 4, and also in the tubes 7, and the picker 8. This suction causes a current of air through the tube which engages the blades on the inner side of the drum, and causes the same to rotate. After the blades have passed a slight distance below the center of the drum, they swing upon their pivots so that the current of the air upwardly through the opening at the rear of the drum is drawing upon the edge of the blades and has little or no pulling effect thereon, while the blades beyond the center are being acted upon by the suction. The current of air upwardly through the opening in front of the drum engages the blades before they enter the housing and has a pulling effect thereon, the current of air being indicated by arrows shown in Fig. 3. This causes the rapid rotation of the drum, and as the blades enter the picker, they engage the cotton in the bulb and pull it therefrom, and the cotton is carried thereby to the tube 8, where the current of air draws it from the blades and conveys it along through the tubes 7 and 4, and discharges it into a receptacle at the rear of the truck.

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

1. A cotton picker, comprising a tube, a rotary picker within the tube and having feathering blades, and a suction means for rotating said pickers.
2. A cotton picker, comprising a tube, a rotary picker within the tube and having pivoted blades, and a suction means for rotating said pickers.
3. A cotton picker comprising a tube, a rotary drum within the tube, feathering picker blades mounted upon the drum, and a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.
4. A cotton picker comprising a tube, a rotary drum, partially within the tube, feathering picker blades mounted upon the drum, and a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.
5. A cotton picker comprising a tube having a flared outer end, and a cut-away portion within the lower side, a rotary drum mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, and suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.
6. A cotton picker comprising a tube having a flared outer end, and a cut-away portion in the lower side, a rotary drum mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum, and a bulged portion carried by the tube opposite the cut-away portion to allow the blades to carry the cotton rearwardly.
7. A cotton picker, comprising a tube, a drum mounted therein, pickers consisting of a blade portion having teeth at their outer edges, and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drums, and pivots passing through the said laterally turned ends and entering the ends of the drums.
8. A cotton picker, comprising a supporting truck, a horizontally arranged tube carried thereby, a suction pump in communication with the horizontal tube, an engine car-

ried by the truck and adapted to operate the said suction pump, flexible tubes in communication with the horizontal tube, picker tubes connected thereto, rotary drums mounted in said picker tubes, feathering blades carried by the drums whereby the drums are caused to rotate by suction.

9. A cotton picker, comprising a tube, a drum mounted therein, pickers each consisting of a blade portion having teeth at its outer edge, and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drum, pivots passing through the said laterally turned ends and entering the ends of the drum, and radially arranged pins carried by the periphery of the drum, and adapted to be engaged by the body portion and serving as a stop for the blades.

10. A cotton picker, comprising a tube having a bulged portion in one side, a rotary drum mounted in the tube adjacent the opposite side, pickers each consisting of a blade portion and a body portion, means for pivotally connecting the body portion to the drum, and a suction means connected to the tube.

11. A cotton picker comprising a tube having a bulged portion in one side, the opposite side of the tube having a cut-away portion, a drum rotatably mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, and suction means connected to the tube.

12. A cotton picker comprising a tube having a bulged portion in one side, the opposite side of the tube having a cut-away portion, a drum rotatably mounted within the tube and extending through the cut-away portion, pickers each consisting of a blade portion having teeth at its outer edge and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drum, pivots passing through the said laterally turned ends and entering the ends of the drum, and radially-arranged pins carried by the periphery of the drum and adapted to be engaged by the body portion and serving as a stop for limiting the swinging movement of the picker in one direction.

In testimony whereof I affix my signature in presence of two witnesses.

NATHAN A. GASTON.

Witnesses:

P. H. M. TIPPIN,
L. B. JAYN.