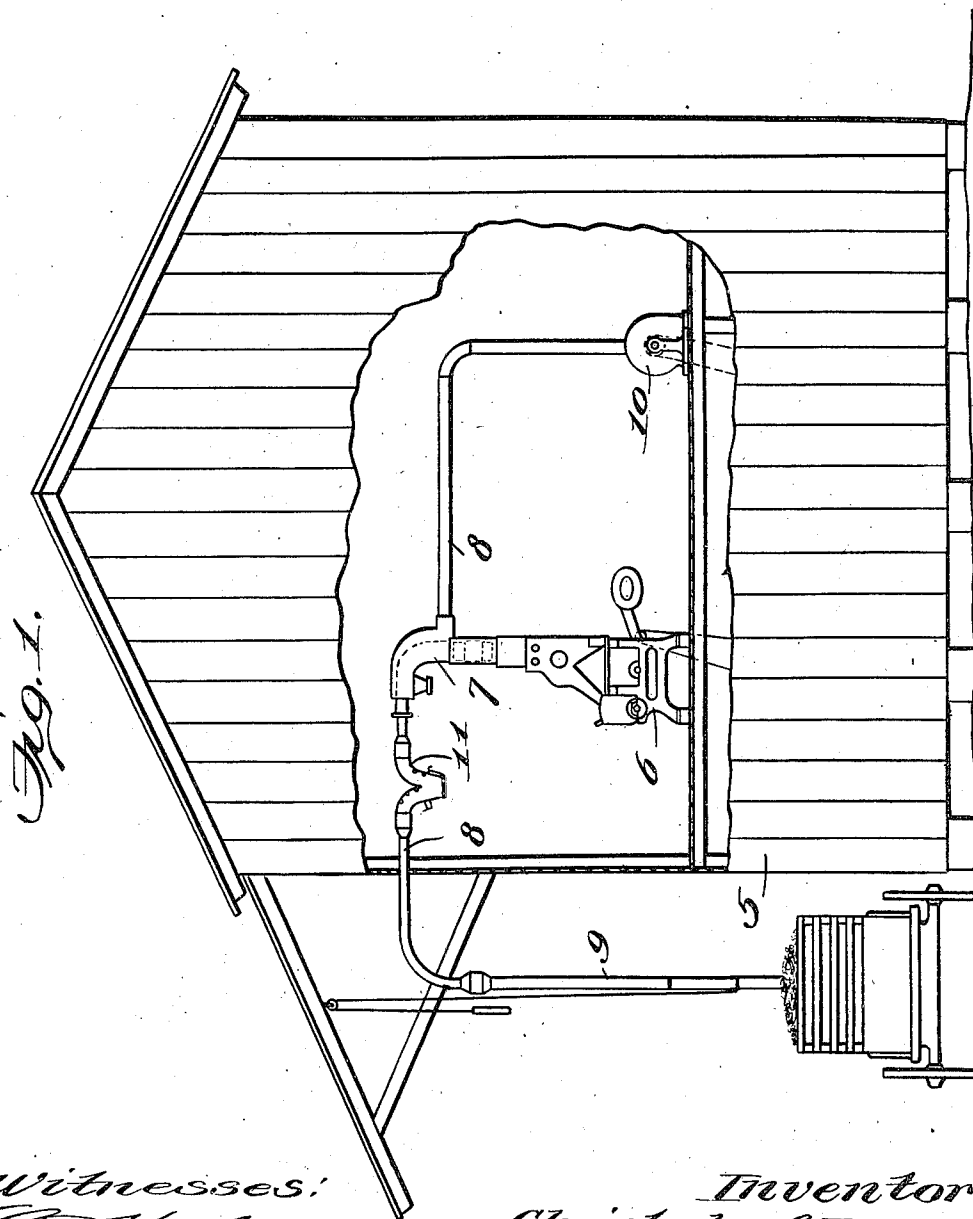


C. C. BROOME.  
SEPARATOR FOR COTTON GINNING MECHANISM.  
APPLICATION FILED DEC. 21, 1910.

1,002,131.

Patented Aug. 29, 1911.

2 SHEETS—SHEET 1.



Witnesses:  
*[Signature]*  
*[Signature]*

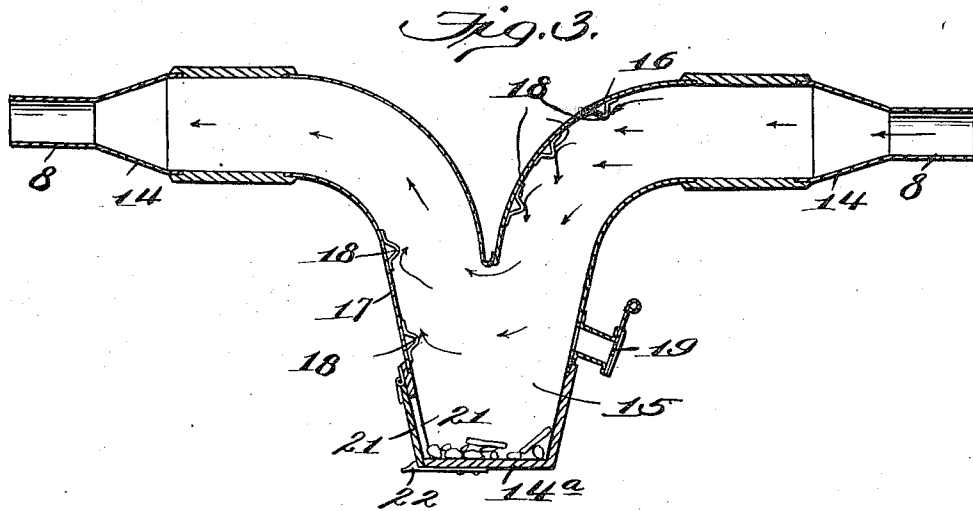
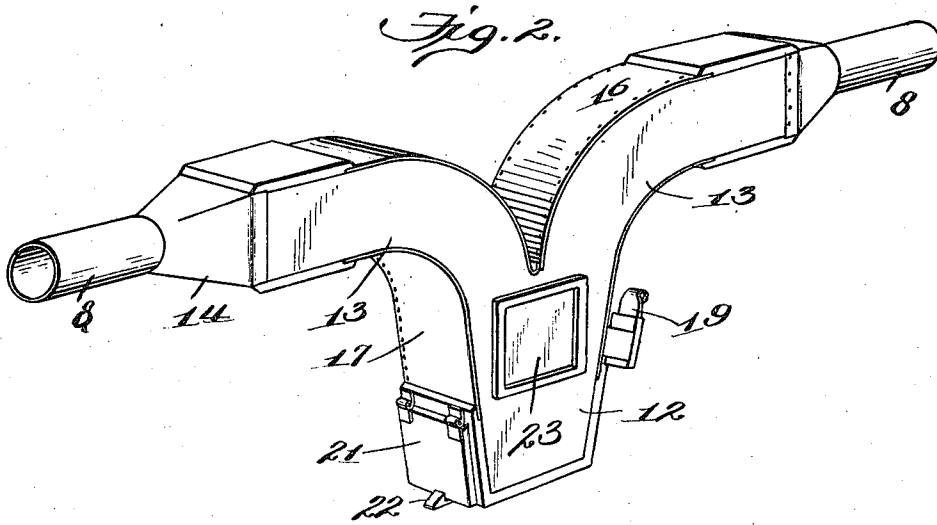
Inventor  
Christopher C. Broome  
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James L. Morris Jr.  
*[Signature]*

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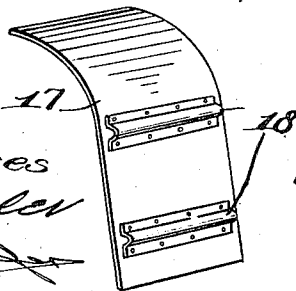
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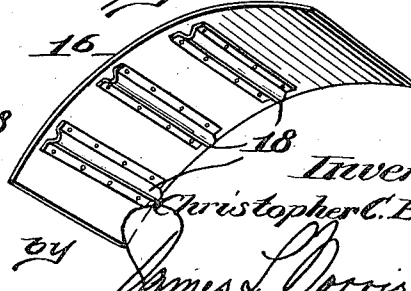
2 SHEETS—SHEET 2.



*Fig. 4.*



*Fig. 5.*



Witnesses  
*[Signature]*  
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Inventor  
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 James L. Norris, Jr.  
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# UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BROOME, OF ATLANTA, GEORGIA.

SEPARATOR FOR COTTON-GINNING MECHANISM.

1,002,181.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed December 21, 1910. Serial No. 598,595.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. BROOME, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Separators for Cotton-Ginning Mechanism, of which the following is a specification.

This invention relates to cotton ginning machinery and particularly to separators for cotton elevators, and the primary object of the same is to provide means interposed between the inlet of a cotton elevator and a gin, or the feeder of a gin for collecting stones, nails and other heavy objects from the cotton as the latter passes through the elevator to a gin so that all heavy foreign matter in the cotton will be liberated and removed therefrom prior to the delivery of the cotton to the gin or to a feeder or cleaner interposed between the gin and elevator where smaller particles of dirt and dust are separated and permit the cotton to be fed to a gin in a clean condition and without carrying therewith resisting substances or heavy objects and thereby avoid injury to the saws or ginning devices and increasing the capacity of a gin output and also producing a better sample or grade of ginned cotton.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is an end elevation, partially broken away, of a gin house or ginnery showing an elevator and gin and the improved separator or eliminator disposed in the elevator between the inlet of the latter and the gin. Fig. 2 is a detail perspective view of the improved separator or eliminator. Fig. 3 is a longitudinal vertical section of the separator or eliminator. Figs. 4 and 5 are detail perspective views of plates forming the walls of the separator or eliminator and having baffles thereon.

The numeral 5 designates a gin house of any preferred construction and having dis-

posed therein as usual a gin or battery of gins 6, each gin having thereover and in communication therewith the usual form of separator 7 which is interposed between the gin and pneumatic elevator 8, the latter having the well known exterior feeding extremity 9 to take the seed or other cotton directly from a wagon or from any other supply means with which it is placed in operative relation. The pneumatic elevator is also supplied with a suction fan 10, as will be understood. The parts just explained are well known in the art of cotton ginning and need not be particularly described, as the invention does not apply thereto but consists of a separator or eliminator 11 interposed between the exterior inlet or feed extremity of the pneumatic elevator and the separator 7 as shown, or the separator or eliminator 11 may be arranged between the inlet of the elevator and any other device that may be used with a gin.

The separator or eliminator embodying the features of the invention is clearly shown in detail by Figs. 2, 3, 4 and 5 and comprises a body 12 approximately of Y-shaped form or having upwardly and outwardly extending conduits 13 which are regularly curved at their point of juncture with the main portion of the said body 12. The terminals of the pneumatic elevator 8 are connected to the free ends of the upwardly and outwardly extending branches 13 by enlargements 14 of said terminals. The top walls of the upwardly and outwardly extending branches 13 converge and unite at a point sufficiently below the horizontal wall of each branch 13 and far enough above the bottom 14<sup>a</sup> of the body 12 to render the separation of heavier particles or devices from the seed cotton effective and also to provide a chamber or receptacle 15 of such depth and capacity as to permit the seed cotton from which the heavier substances or particles have been separated or eliminated to pass from one branch 13 into the remaining branch and also allow the heavier substances or particles to gravitate toward and be held against the bottom 14<sup>a</sup> within the chamber 15.

The upper curved wall 16 of the one branch and the one end wall and a portion of the bottom wall 17 of the body 12 and the remaining branch 13 are constructed and arranged as shown by Figs. 3, 4 and 5, and each is provided with semicylindrical baffles 18, the baffles of the wall 16 being in line with the entrance branch 13 or that nearest the inlet of the pneumatic elevator so that the seed cotton when drawn through the improved device by suction strikes the wall 16 and the baffles 18 thereof and is deflected downwardly and at the same time the heavier substances or particles carried with the seed cotton are separated and caused to fall against the bottom 14<sup>a</sup>, the cotton passing downwardly under the point of convergence of the top walls of the two branches or through the upper portion of the chamber 15 and is caused to strike against the wall 17 and the baffles 18 of the latter to insure the liberation and removal of any of the heavier substances which may not be fully liberated by the cotton striking against the wall 16 and baffles 18 thereon.

In one end of the improved separator or eliminator at a suitable point below the point of intersection of the top walls of the branches 13 an air inlet valve 19 is provided and readily operative to permit the entrance of air into the chamber 15 without affecting the conveyance of the seed cotton but assisting in the deposit of the heavier substances or foreign matter carried by the seed cotton against the bottom 14<sup>a</sup> or within the chamber 15. It will be understood that owing to the suction force exerted through the pneumatic elevator on the seed cotton the latter will strike the plate or wall 16 with considerable force and the power of the suction in the elevator might be at times sufficient to defeat the operation of separation or elimination, but by providing the air inlet valve 19 an additional current is set up in the chamber 15 in the direction of the outlet branch 13 and thus prevent any tendency of the cotton to settle toward the bottom of the chamber 15 and also materially assist in the deposit or gravitation of the heavier substances and destroy any air eddies adjacent to the bottom 14<sup>a</sup> or within the lower portion of the chamber 15. It will be obvious that in view of the lightness of the seed cotton the heavier substances or particles will be reliably separated and the cotton will pass from one branch 13 into the other branch through the upper portion of the chamber 15 and thence to the usual separator or other device 7 and eventually to the gin or gins 6. At the end of the body 12 opposite that having the valve 19 therein a suitably hinged door 20 is applied over an outlet opening 21 to permit the removal of the material collected in the chamber 15, the

door being normally held closed by a suitable catch 22. In one side of the body 12 is a sight opening having a transparent cover 23 to permit inspection of the interior of the chamber 15.

The improved separator or eliminator embodying the features of the invention will serve as an effective auxiliary to cotton ginning machinery by reason of the removal of the heavier substances that may be carried into the pneumatic elevator with the seed cotton and prevent injury to the saws or ginning devices and consequently increase the output of gins and also produce a materially better grade of ginned cotton.

It is obvious that any suitable materials may be used in the construction of the improved device, but it is preferred that the walls 16 and 17 at least be of metal of such resistance to wear as to render the improved device strong and durable.

What is claimed as new is:—

1. In combination with a pneumatic conveying means or elevator, of a depending body having upwardly and outwardly extending conduits in reverse positions and terminally connected to the elevator, and baffle devices applied to the inner wall of one of the conduits above the main portion of the body and to one wall of the body adjacent to the intersection with the latter of the remaining conduit to retard and divert the course of the seed cotton and at the same time cause a separation of the foreign matter from the seed cotton.

2. The combination with a cotton elevator and a gin, of a separator disposed in the elevator between the inlet extremity of the latter and the gin, the separator consisting of a depending body having inlet and outlet conduits extending upwardly and outwardly therefrom, the inlet conduit having its inner wall above the main portion of the body provided with a plurality of transversely extending baffle devices and the one wall of the body below the conduits and adjacent to the outlet conduit also having transversely extending baffle devices in the air plane to retard and divert the course of the seed cotton and effect an elimination of the heavier matter from the seed cotton and cause such matter to be deposited in the bottom of the body.

3. The combination with a cotton elevator and ginning mechanism, of a separator having a depending body and disposed in the elevator between the inlet extremity of the latter and the ginning mechanism and provided with upwardly and outwardly extending conduits terminally connected to the elevator, the one conduit constituting an inlet and the other an outlet, the inlet conduit having baffle devices on the inner wall thereof above the body and the latter having

baffle devices on the wall thereof below and adjacent to the outlet conduit, the body having an air inlet valve in the wall thereof opposite that carrying the baffle devices and also provided with a bottom outlet means.

my hand in presence of two subscribing witnesses.

CHRISTOPHER C. BROOME.

Witnesses:

T. A. PEACOCK,  
W. E. HARRISON.

In testimony whereof I have hereunto set