May 14, 1929. J. B. BRENNEN 1,713,371

SEPARATOR

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Fig. 2.

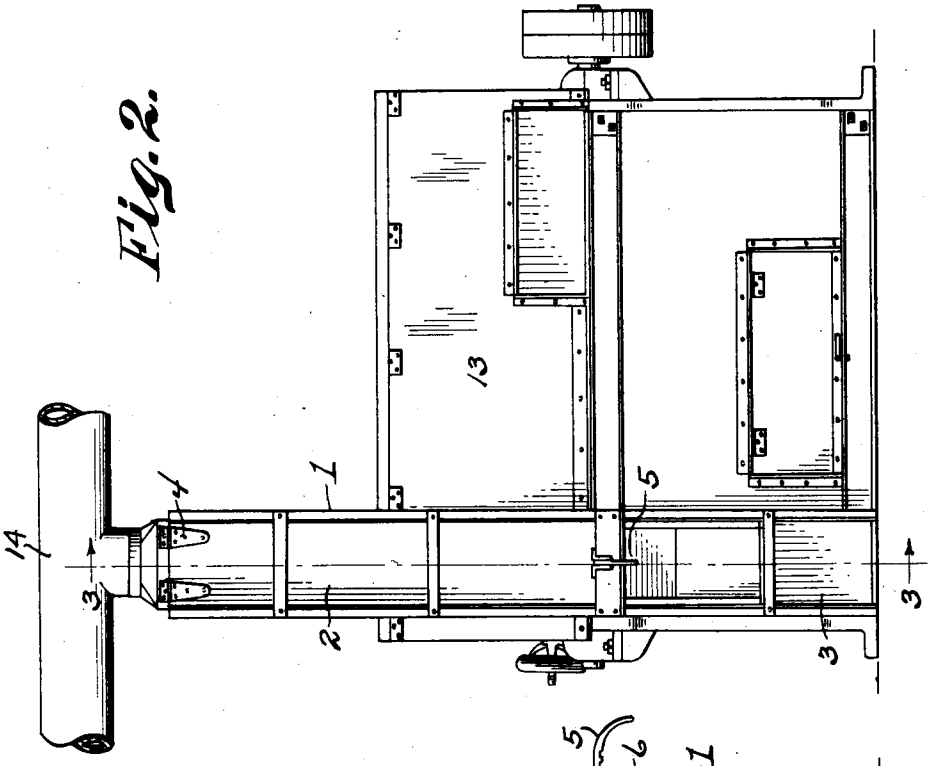
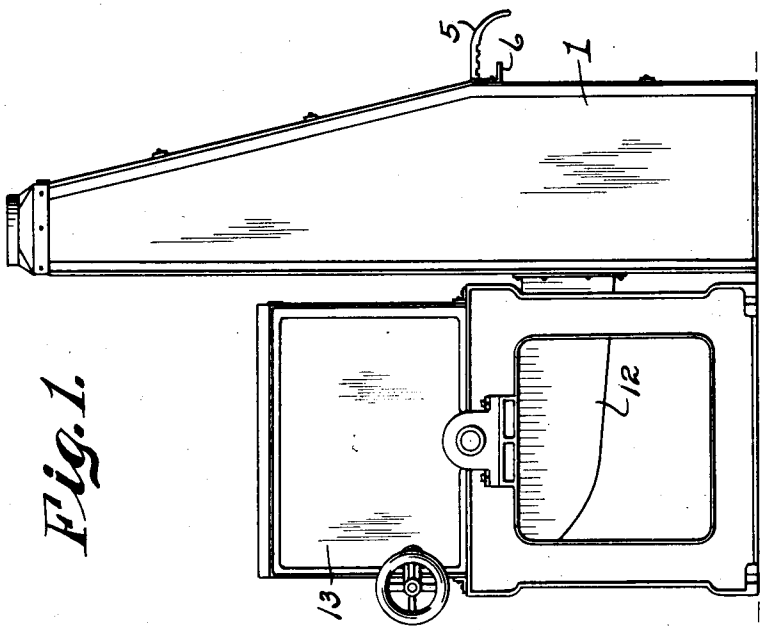


Fig. 1.



John B. Brennen
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS: John Donovan

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Fig. 3.

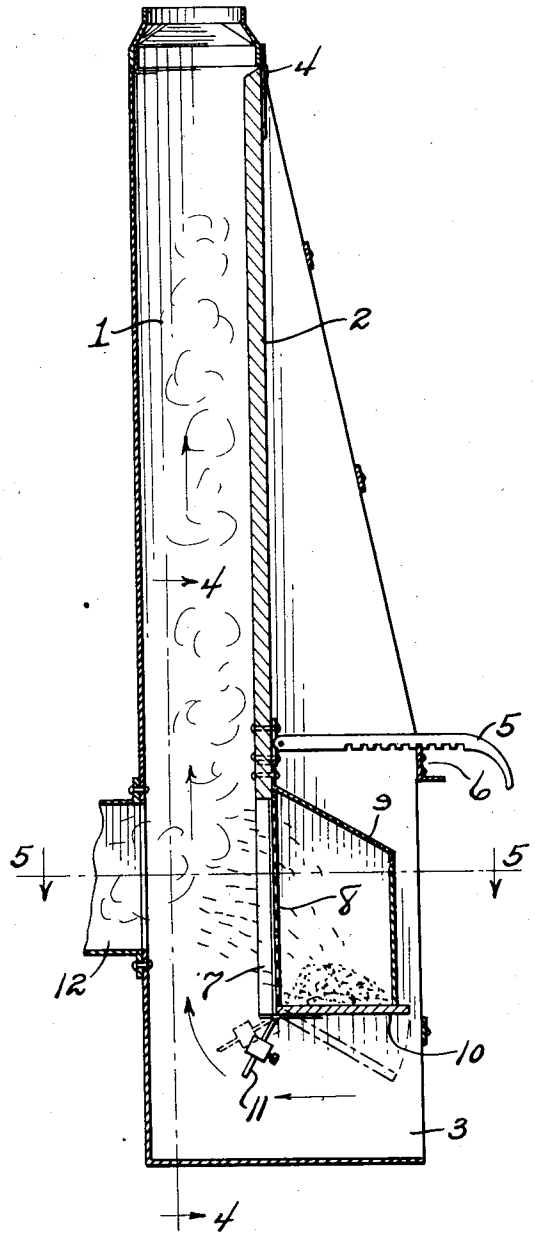


Fig. 4.

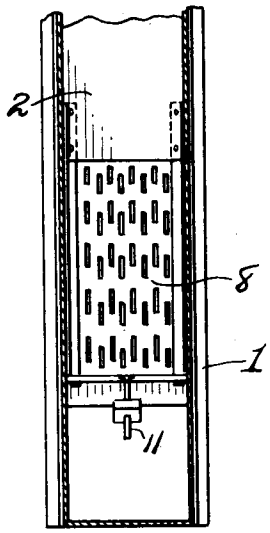
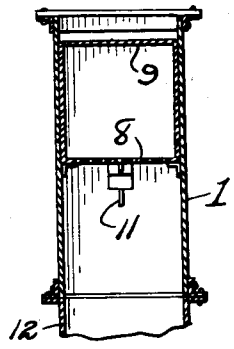


Fig. 5.



John B. Brennen
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS: John Donovan

Patented May 14, 1929. 1,713,371

UNITED STATES PATENT OFFICE.

JOHN B. BRENNEN, OF ATLANTA, GEORGIA.

SEPARATOR.

Application filed February 11, 1928. Serial No. 253,738.

This invention relates to a separator for removing foreign matter from cotton, the general object of the invention being to provide a vertically arranged casing having its upper end connected to the trunk line of the cleaning system so that the suction in the line will create a suction in the casing, the casing having an air inlet at its lower end, with means for delivering the cotton to the casing from the cleaner in such a manner that the foreign matter enters the casing below the cotton so that the air passing upwardly through the casing lifts the cotton away from instead of through this foreign matter.

Another object of the invention is to provide an adjustable baffle plate in the casing for regulating the air passage therethrough, the baffle having a perforated plate in its lower end with a catch box back of the plate so that particles of foreign matter, striking the plate, will pass through the perforations therein into the box.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an end view showing the improved separator attached to the cleaner device of the cotton cleaning system.

Figure 2 is an elevation.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 3.

In these views, the numeral 1 indicates the vertically arranged casing which forms the body of the separator, said casing having its front side open and its lower part enlarged. A baffle plate 2 closes the front of the casing, except the lower part thereof, so as to provide an air inlet 3. The upper end of the baffle plate is hinged to the front upper end of the casing, as shown at 4, and said plate is adjustable through means of the lever 5 hinged to the front part of the plate and having notches therein, any one of which is adapted to receive an edge of an angle-shaped cross piece 6 attached to the front edges of the casing. The lower part of the plate is formed with an opening 7 which is covered by a perforated plate 8 and a catch box 9 is attached to the front of the plate 2 and covers the opening. This catch box is provided with a hinged bottom 10 which is normally held closed by the weight on the arm 11. The upper end of the casing is adapted to be connected to the trunk line of the system leading to the condenser so that a suction is created in the casing which draws air through the inlet 3 a part of this trunk line being shown at 14. The discharge chute 12 of the cleaner cylinder, located in the casing 13, is attached to the lower part of the casing, at a point opposite the perforated plate 8 of the baffle plate 2, and as shown in Figure 1, this chute extends downwardly at an angle from the bottom level of the cylinder.

From the foregoing it will be seen that the cotton and the heavy foreign materials therein are discharged from the cleaner screen or cylinder into the separator casing. The centrifugal force set up in the cleaner causes the heavy materials to be discharged into the casing 1 below the cotton discharged into said casing and the air passing upwardly through the casing 1 lifts the cotton away from this heavy material. The heavy materials also leave the cleaner, traveling at much higher speed than the cotton and present a smaller proportionate area upon which the air can act. Thus there is no danger of this material being mixed with the cotton in the separator casing. The cotton striking the baffle plate 8 will be freed from certain small particles of material which pass into the box 9 and which would otherwise pass upwardly through the separator with the cotton. As soon as the amount of material in the catch box overbalances the weight on the arm 11, the bottom will drop and thus automatically empty the box. This catch box and baffle plate rids the cotton of fine leaf, etc., which would otherwise pass upwardly with the cotton. Attention is called to the fact that the air is drawn from the room into the opening 3 and not through the cleaner casing 13, thereby avoiding a suction in the cleaner cylinder which would in-

terfere with the action of the vanes on the cotton.

It will, of course, be understood that the heavy materials passing into the separator casing from the cleaner screen or cylinder will drop to the bottom of the separator casing from which it may be removed through the opening 3 and the materials passing into the catch box through the baffle plate are also removed through said opening.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

It is to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A separator for a cotton cleaning system including a cleaner and a trunk line leading to the condenser comprising a vertically arranged casing having its upper end connected with the trunk line and having an air inlet at its bottom, a vertically arranged baffle plate in the casing, means for adjusting the plate to regulate the size of the air passage through the casing and means for connecting the lower part of the casing with the cleaner of the system at a point below the bottom of the cleaner cylinder.

2. A separator for a cotton cleaning system including a cleaner and a trunk line leading to the condenser comprising a vertically arranged casing having its upper end connected with the trunk line and having an air inlet at its bottom, a vertically arranged baffle plate in the casing, means for adjusting the plate to regulate the size of the air passage through the casing, means for connecting the lower part of the casing with the cleaner of the system at a point below the bottom of the cleaner cylinder, said baffle plate having an opening in its lower end arranged opposite the discharge from the cleaner cylinder, a perforated plate covering the opening and a catch box on the baffle plate for receiving material passing through the perforations in the plate.

3. A separator for a cotton cleaning system including a cleaner and a trunk line leading to the condenser comprising a vertically arranged casing having its upper end connected with the trunk line and having an air inlet at its bottom, a vertically arranged baffle plate in the casing, means for adjusting the plate to regulate the size of the air passage through the casing, means for connecting the lower part of the casing with the cleaner of the system at a point below the bottom of the cleaner cylinder, said baffle plate having an opening in its lower end arranged opposite the discharge from the cleaner cylinder, a perforated plate covering the opening, a catch box on the baffle plate for receiving material passing through the perforations in the plate, a hinged bottom for the box and weighted means for normally holding the bottom closed.

In testimony whereof I affix my signature.

JOHN B. BRENNEN.