

(No Model.)

2 Sheets—Sheet 1.

H. REMBERT.
COTTON CLEANER.

No. 530,458.

Patented Dec. 4, 1894.

FIG. 1.

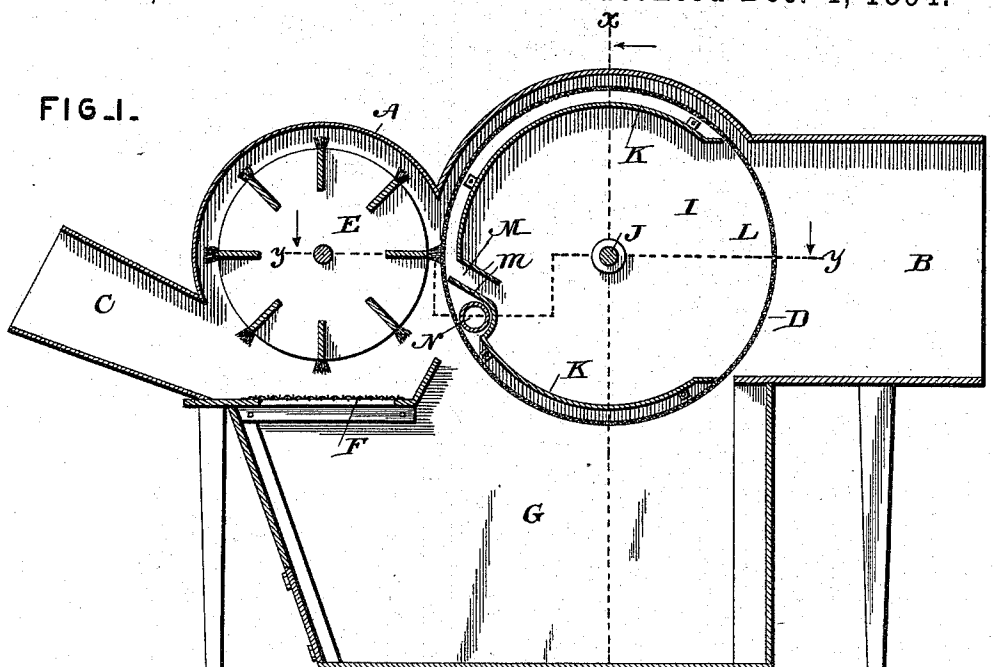
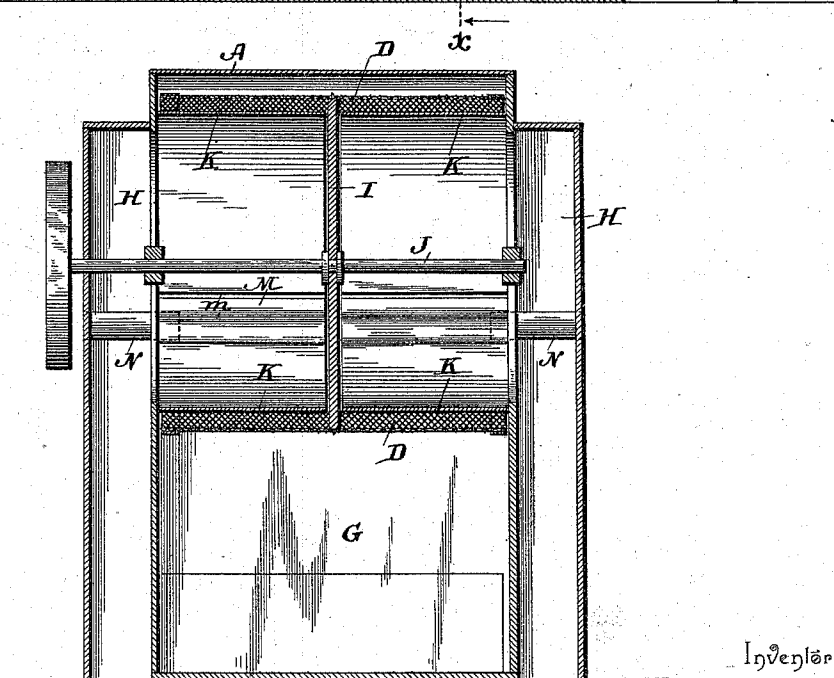


FIG. 2.



Inventor

Henry Rembert

Witnesses

Jas. K. McLaughlin
D. P. McLaughlin

By His Attorneys.

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

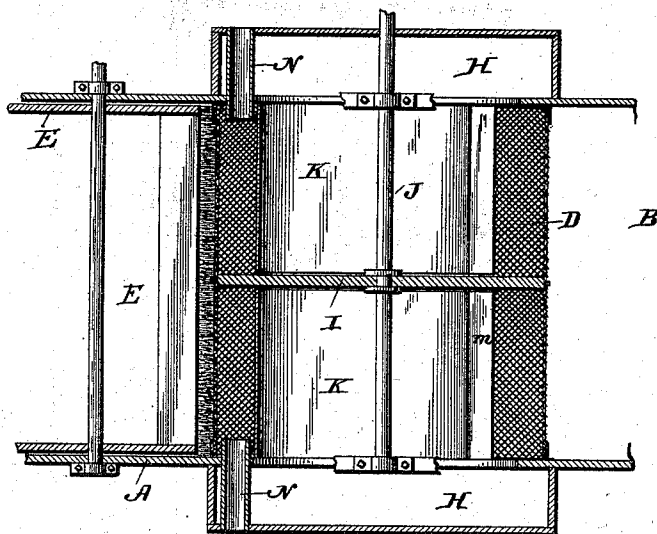
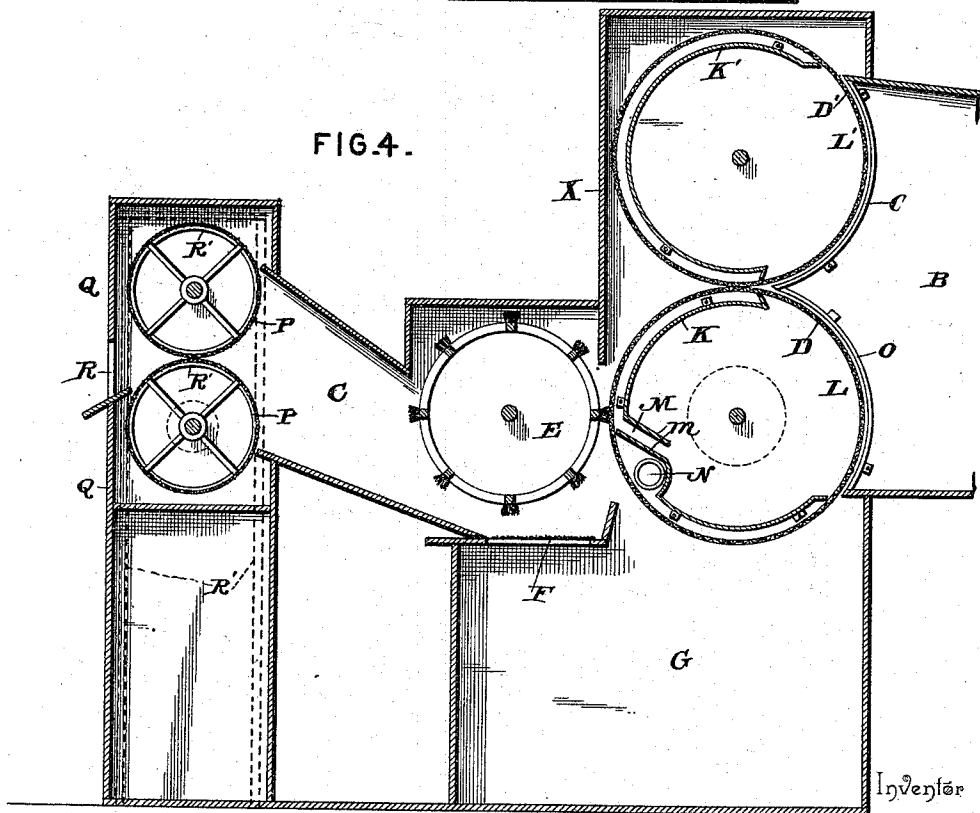


FIG. 4.



Witnesses

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D. P. McEachran.

By his Attorneys,

Henry Rembert

C. Snow & Co.

UNITED STATES PATENT OFFICE.

HENRY REMBERT, OF WILLIS, TEXAS.

COTTON-CLEANER.

SPECIFICATION forming part of Letters Patent No. 530,458, dated December 4, 1894.

Application filed March 27, 1894. Serial No. 505,320. (No model.)

To all whom it may concern:

Be it known that I, HENRY REMBERT, a citizen of the United States, residing at Willis, in the county of Montgomery and State of Texas, have invented a new and useful Cotton-Cleaner, of which the following is a specification.

This invention relates to cotton cleaners; and it has for its object to effect certain improvements in that class of cotton cleaners which are adapted to be arranged in the line of a flue leading from a gin to a condenser.

To this end the main and primary object of this invention is to add certain improvements to the cleaner claimed in my former patent, No. 506,134, whereby the dust-laden air will be effectually prevented from passing through the cleaning drum of the cleaner and mingling again with the cleaned cotton which is fed to the condenser.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings:—Figure 1 is a central vertical longitudinal sectional view of a cotton cleaner embodying the improvements claimed. Fig. 2 is a transverse sectional view on the line $x-x$ of Fig. 1. Fig. 3 is a detail horizontal sectional view on the line $y-y$ of Fig. 1. Fig. 4 is an enlarged sectional view of a modified form of apparatus.

Referring to the accompanying drawings, A represents the enlarged cleaner casing adapted to be arranged intermediate of a cotton gin and a condenser, and said cleaner casing is provided at one end with an enlarged cotton receiving flue B, which receives the cotton, together with the dust and dirt-laden air, from a cotton gin, while at a directly opposite end the cleaner casing is provided with the contracted cotton discharge flue C, which is adapted to lead into an ordinary condenser in the lint room. Mounted within the cleaner casing A, at a point adjacent to the inner end of the flue B, is the cylindrical screen cleaning drum D, and at one side of the screen drum D, and adjacent to the inner end of the contracted discharge flue C, is mounted an oppositely rotating combined brush and fan

E, which is adapted to work in contact with one side of the screen drum, so as to knock off the cleaned cotton therefrom, and impel it through the discharge flue C.

The construction just described is the general construction of the cleaning machine described and claimed in my former patent, before referred to, and it will of course be understood that I employ the screen mote board F, under the combined brush and fan and the bottom mote box G, as set forth in said patent, but in the present invention both opposite ends of the cylindrical screen drum D, are open so as to freely communicate with the upper ends of the opposite inclosed vertical dust flues H, which open into opposite sides of the cleaner casing, so as to communicate with the interior of the screen drum, and are designed to have their lower ends project through the floor of the gin house so as to carry off the dust, dirt, and sand. The said screen drum is mounted in any suitable manner, but is illustrated as conveniently mounted on a centrally arranged shaft disk I, driven by the drum shaft J.

Arranged inside of the revolving screen drum D, is a stationary cylindrical shield casing K. The interior shield casing K, extends almost entirely around the interior of the screen drum in close proximity to the screened periphery thereof, and is open at one side as at L, to receive the dust laden air from the flue B, while the cotton carried against the side of the screen drum exposed in the flue B, is carried around by such screen drum until it reaches the combined brush and fan E, as will be well understood.

It will be readily understood that the interior shield casing K, cuts off the air current coming from the flue B, and prevents it passing entirely through the screen drum and mixing again with the cleaned cotton impelled out of the flue C, by the combined brush and fan, and by reason of thus interrupting the dust-laden air currents, the dust and other fine matter passing into the interior of the screen drum find escape out of the cleaner through the side dust flues H.

The side of the interior cylindrical shield casing K, next to the combined brush and fan E, is provided with a transverse downwardly disposed dirt slot M, formed between approxi-

mately parallel flanges *m*, and this transverse slot is located directly opposite the point of contact between the combined brush and fan and the screen drum, and it will be apparent
 5 that as the combined brush and fan revolves against the screen drum it will cause dirt, sand, dust and other impurities in the cotton to be worked or rubbed out of the cotton and through the screen drum into the slot *M*, and
 10 thence into the interior of the shield casing, from which they will be carried out through the side dust flues referred to.

By substantially cutting off the air current from the flue *B*, it is necessary to supply the
 15 combined brush and fan with clean air, and to accomplish this I employ clean air pipes *N*. The clean air pipes *N*, are mounted transversely in opposite sides of the casing and lead from the outer air to a point between the
 20 slotted side of the shield casing and the periphery of the screen drum, directly under the slot *M*, and serve to supply the requisite quantity of clean air to the combined brush and fan.

25 The operation involved in the cleaner just described is the same as described in my former patent, and in connection with the improvements claimed I will have it understood that changes in the form, proportion and the
 30 minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

The herein-described improvements may
 35 advantageously be embodied in a modified form of machine involving two screen cleaning drums, and screen condensing drums, whereby, in a single machine may be combined more efficient means for relieving dust,
 40 dirt, &c., from the lint cotton, and means for conveniently and expeditiously condensing the cotton as it is discharged from the cleaning devices of the machine. In this modification, the cotton receiving flue *B*, is enlarged to connect with the enlarged casing extension *X*, that accommodates therein the cylindrical screen cleaning drum *D*, previously
 45 described, and a supplemental superimposed screen cleaning drum *D'*. The screen cleaning drums *D* and *D'*, are duplicates in construction, and the second upper drum *D'*, is also provided therein with a stationary cylindrical shield casing *K'*, that extends almost
 50 entirely around the interior thereof and is open at one side as at *L'*, corresponding to the open side *L*, of the lower drum *D*, so as to communicate with the receiving flue *B*, to catch the dust, dirt and sand without allowing the same to pass entirely through the
 55 drum, it of course being understood that the upper superimposed drum *D'*, is open at its ends to communicate with the interior of the opposite side dust flues *H*, in the same manner as the lower screen drum *D*.

65 Both of the drums *D* and *D'*, are exposed at one side in the flue *B*, and at the point where the flue opens into the casing of these

drums, are located the opposite curved shield flanges *O*. The shield flanges *O*, are secured to opposite sides of the flue *B*, and closely
 70 embrace the opposite end edges of the drums *D* and *D'*, and extend therebetween to a point near their point of contact, so as to prevent the air currents from working around and out at the end edges of the drum and
 75 also preventing the cotton from clogging at these points. The upper of said drums *D'*, rests directly on top of the lower drum *D*, and is revolved or driven by the frictional contact with said lower drum in a reverse direction
 80 to the latter, and as the drums are rotated the cotton is carried around over the top of the lower drum *D*, in the same manner as in the single drum cleaner and under the drum *D'*, from which it falls partly in response to the
 85 suction of the combined brush and fan *E*, and the cotton is caught up by the combined brush and fan *E* and impelled out through the discharge flue *C*.

In the modification herein described the cotton that is impelled through the flue *C*, is
 90 forced directly onto the screen condensing drums *P*. The screen condensing drums *P*, are mounted to rotate within the condensing chamber or casing *Q*, arranged at the outer
 95 end of the flue *C*, as a part of the main casing of the machine, and motion being communicated to the lower of the condensing drums *P*, the upper drum is driven in an opposite direction by reason of its contact with
 100 the lower drum so that as the cotton is carried between said drums it will be condensed and discharged through the discharge opening *R*, at one side of the chamber or casing
 105 *Q*, said cotton having undergone in a single machine the separate operations of cleaning and condensing.

The screen condensing drums *P*, are open at both ends and communicate with the opposite vertical side dust flues *R'*, arranged at
 110 the opposite sides of the chamber or casing *Q*, in a similar manner to the other dust flues *H*, of the machine.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a cotton cleaner, the combination with the inclosed flue casing, the rotary screen drum, and the combined brush and fan at one side of and contacting with said screen drum; of a stationary cylindrical shield casing arranged inside of the screen drum in close proximity to its periphery and open at one side next to the receiving flue, said shield casing having a dirt receiving slot in its closed side and separate means for supplying clean
 125 air to the combined brush and fan at the closed side of the shield casing, substantially as set forth.

2. In a cotton cleaner, the combination with the casing, the rotary screen drum, and the combined brush and fan at one side of the drum; of a cylindrical shield casing arranged inside of the drum and communicating with
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the receiving flue, and air pipes arranged between one side of the shield casing and the periphery of the screen drum next to the combined brush and fan, to supply the latter with clean air, substantially as set forth.

3. In a cotton cleaner, the combination with the screen drum, and the oppositely rotating combined brush and fan at one side thereof; of a stationary cylindrical shield casing arranged inside of the drum and extending partially around the interior thereof, said casing being provided at one side with a transverse downwardly disposed dirt-slot directly opposite the point of contact between the combined brush and fan and said screen drum, substantially as set forth.

4. In a cotton cleaner, the combination with the flue casing, the rotary screen drum, and the combined brush and fan at one side of and contacting with said screen drum; of a stationary cylindrical shield casing extending partially around the inside of the screen drum, and provided at a point directly opposite the point of contact between the brush and fan and drum with a transverse downwardly disposed dirt slot, and air pipes ar-

ranged outside of the shield casing below said slot and between the casing and said combined brush and fan, substantially as set forth.

5. In a cotton cleaner, the combination with the inclosed flue casing, superposed reversely rotating screen cleaning drums mounted within the casing at the receiving end thereof and provided with open ends, opposite side dust flues communicating with the ends of said drums, stationary cylindrical shield casings arranged within said drums, and open at one side next to the receiving flue of the casing, and opposite curved shield flanges embracing opposite end edges of said drums at opposite sides of the receiving flue of the casing, to prevent clogging of the cotton and the escape of air currents at the end edges of the drums, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY REMBERT.

Witnesses:

J. H. D. WOOLDRIDGE,
JAMES S. MONTGOMERY.