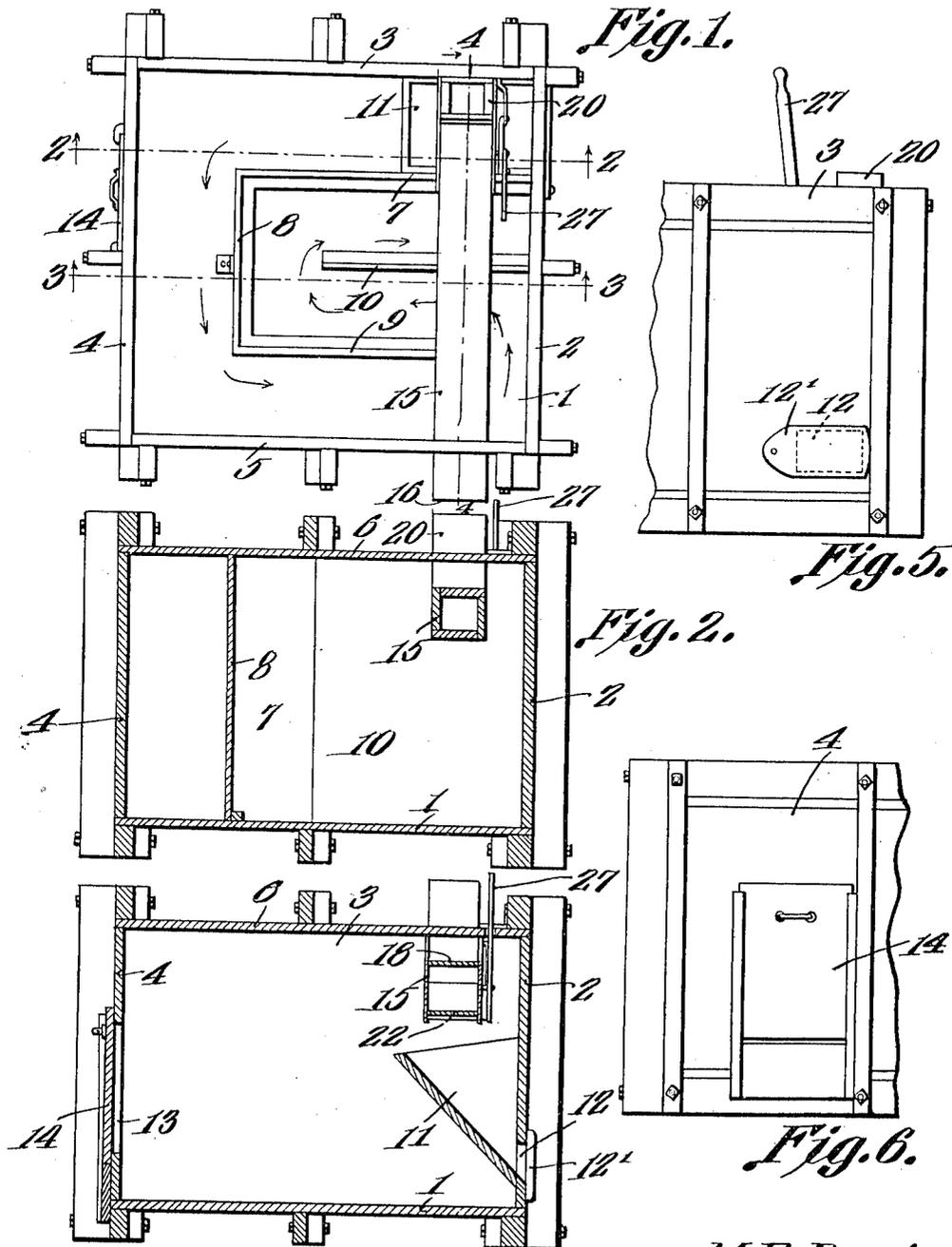


M. R. DAVIS.
 SEED COTTON CLEANER.
 APPLICATION FILED OCT. 16, 1912.

1,071,987.

Patented Sept. 2, 1913.

2 SHEETS—SHEET 1.



Witnesses

J. R. Jones
L. H. Wilson

Fig. 3.

M. R. Davis,
 Inventor

by

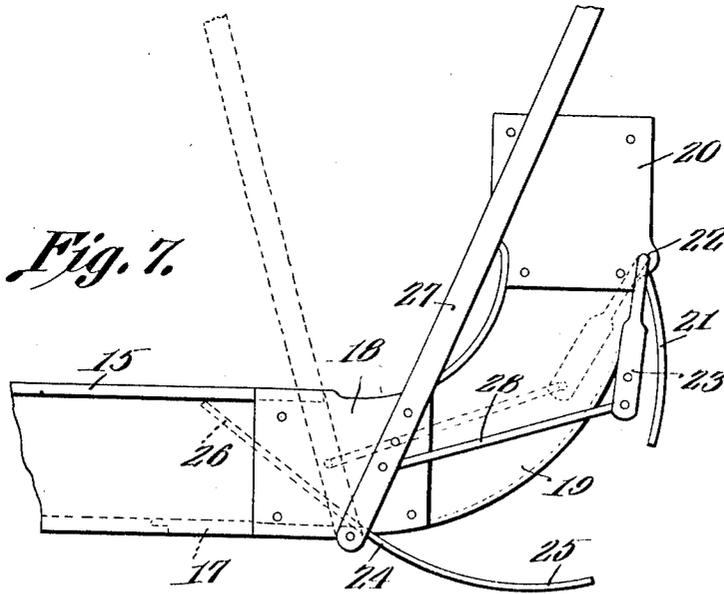
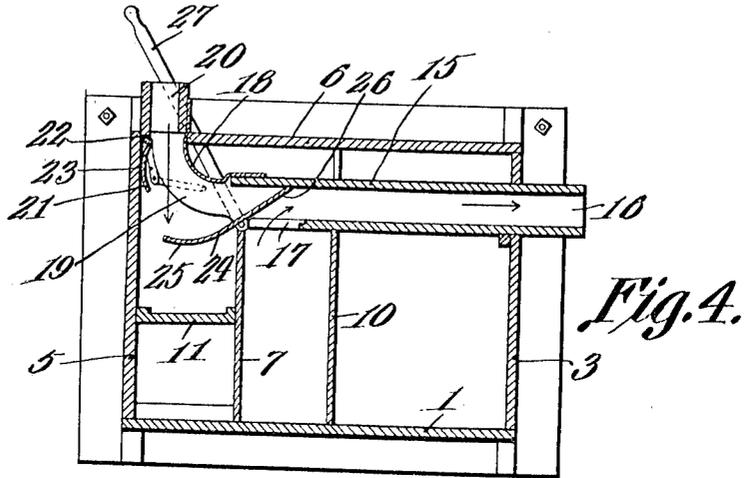
C. A. Snow & Co.
 Attorneys

M. R. DAVIS.
 SEED COTTON CLEANER.
 APPLICATION FILED OCT. 16, 1912.

1,071,987.

Patented Sept. 2, 1913.

2 SHEETS—SHEET 2.



Witnesses

J. P. ...
L. ...

M. R. Davis,
 Inventor

by *C. A. Snow & Co.*
 Attorneys

UNITED STATES PATENT OFFICE.

MICAJAH R. DAVIS, OF KEMP, OKLAHOMA.

SEED-COTTON CLEANER.

1,071,987.

Specification of Letters Patent.

Patented Sept. 2, 1913.

Application filed October 16, 1912. Serial No. 726,183.

To all whom it may concern:

Be it known that I, MICAJAH R. DAVIS, a citizen of the United States, residing at Kemp, in the county of Bryan and State of Oklahoma, have invented a new and useful Seed-Cotton Cleaner, of which the following is a specification.

The present invention relates to improvements in seed cotton cleaners, the primary object of the invention being the provision of a novel mechanism adapted to be disposed in connection with the exhaust or pressure fan used in connection with cotton machinery, the same being disposed to separate the dirt and trash from the air blast, such air blast being diverted from a straight channel into a circuitous passage, so that the heavier particles will be properly separated therefrom before the final exhaust of the air through the channel.

A further object of the present invention is the provision of a novel form of valve mechanism disposed in the air blast tube whereby the air may be diverted from the air blast tube directed through a circuitous passage and redirected into the air blast tube beyond the valve.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings Figure 1 is a top plan view of the complete mechanism with the top removed. Fig. 2 is a section taken on line 2—2 of Fig. 1. Fig. 3 is a section taken on line 3—3 of Fig. 1. Fig. 4 is a section taken on line 4—4 of Fig. 1 with the top in place. Fig. 5 is a view in elevation of one wall of the device showing the door for controlling the exit of the particles from the same. Fig. 6 is a similar view at the opposite side of the device showing the door to permit the cleaning of the device. Fig. 7 is a detail view of the air blast conduit at the portion adjacent to the valves and operating mechanism.

Referring to the drawings, the numeral 1 designates the base or floor of the machine

which has mounted thereupon the four walls 2, 3, 4 and 5, which are sealed by means of the cap or lid 6. Disposed within the receptacle thus formed is a partition 7, which extends from the wall 2 to a point beyond the center and parallel with the wall 3, at which point a short partition 8 parallels the wall 4 and is connected thereto, and extends to and approximately the same distance from the wall 5 as the partition 7 is from the wall 3, a short partition 9 being disposed at right angles thereto and terminating to provide an inlet passageway between its free end and the inner face of the wall 2. Thus an air blast entering from the top at a point adjacent the wall 3 will follow the direction of the arrows Fig. 1 within the receptacle.

At the inlet end of the circuitous passage way formed by the partitions 7, 8, 9 and 10 is an inclined wall 11, which forms a hopper for receiving the heavier particles, such as gravel, sand and the like first entering the chamber and provided in the wall 2 is the outlet aperture 12 controlled by the pivoted door 12', whereby the hopper 11 may be emptied.

In the rear wall 4 is provided a clean out aperture 13, controlled by a slide door 14, this aperture being of sufficient size to, in large machines, permit the access thereto of a person for removing the cleaned seed from the machine.

The air blast conduit 15 is mounted as clearly shown in Fig. 4, in the upper portion of the chamber at one side thereof, in this instance paralleling the wall 2, the outlet 16 being exterior of the chamber, and the inner wall of the conduit having its inner end provided with the opening 17, the purpose of which will presently appear.

A curved metal plate 18 is connected to the inner end of the conduit 15 and is provided with the downwardly extending aprons 19 whose lower edges are curved so that the inlet conduit 20 connected to the aprons 19 and curved wall 18 is in a plane at right angles to the conduit 15 and constitutes the inlet end of the air blast. The portion between the aprons 19 is normally open and therefore in order to provide a means which will close the same to permit the free access of the air from the conduit 20 between the aprons 19 and wall 18 into and through the conduit 15, a valve mechanism, as clearly

shown in detail in Fig. 7, is provided. This consists of the upper valve 21, which is provided with the mounting rod 22 connected at the upper portion of the aprons 19, the curvature of the valve 21 being of the same shape as its adjacent curved portion of the lower edge of the aprons 19, as clearly shown in dotted lines Fig. 7, and in order to operate the valve 21 to move it from the position as shown in full lines to dotted lines, Fig. 7 and vice versa, a crank 23 is connected to the rod 22. The valve 24 which provides a means for closing the aperture 17 and the remaining portion of the open part of the conduit formed by the aprons 19, has the curved end 25 for coaction with the curved valve 21 to close the opening formed by the aprons 19 while the straight end 26 is disposed to be in the dotted position Fig. 7, to close the aperture 17, and thus permit the free access of the air blast through the inlet 20 between the curved wall 18, the aprons 19 and above the valves 21 and 24 and through the conduit 15.

When the valves 21 and 24 are moved to the position, as shown in Fig. 4, the straight end 26 of the valve 24 is disposed as a cut-off across the inlet end of the conduit 15, while an opening is formed between the adjacent ends of the valves 25 and 21 to permit the entrance of the air blast through the inlet conduit 20 and downwardly in the direction of the arrow Fig. 4 through the various compartments formed within the chamber following the direction of the arrows as shown in Fig. 1, and finally entering the aperture 17 as indicated by the arrows in Fig. 4. The heavier particles as shown in Fig. 4 will abut the curved end 25 of the valve 24 and will finally fall and enter the hopper 11, while the air with the lighter particles will pass through the chamber and finally through the apertures 17 and through the conduit 15, the seed falling in the casing. In order to impart simultaneous movement to the valves 21 and 24, a lever 27 is connected to the valve 24 and has a link 28 connected therewith and to the crank 23, as clearly shown in Fig. 7, so that as the valve 24 is operated to assume either the full or dotted line position, the valves 21 and 25 will be moved into either the full or dotted line position. This lever 27 is projected through the top 6 so as to be readily accessible to the operator from the outside of the machine.

From the foregoing description, taken in connection with the drawings, it is evident that the present device may be connected at the exhaust of any fan or other pressure mechanism used in connection with the seed conveying blast from the cotton gin stands, and that the heavier particles will be properly separated from the air blast by diverting the same from one portion of the blast

and directing it through the chamber as herein shown, and finally back into the conduit.

What is claimed is:

1. In a machine of the character described, a casing having partitions therein to provide a circuitous blast passage way throughout the chamber, a blast conduit having an opening in its lower wall above the inlet and outlet of the passage way, and a valve for closing said opening to direct the blast through the conduit without entering the casing or for forming a partition across the conduit to divide the opening into an inlet and an outlet for the passage way.
2. In a machine of the character described, a casing having partitions therein to provide a circuitous blast passage way throughout the chamber, a blast conduit having an inlet and outlet exteriorly of the casing with the body portion of the conduit within the casing, the under wall of the conduit above the inlet and outlet of the passage way being open, and a valve mounted in the conduit adjacent the opening thereof to close the opening or to form a partition across the conduit and to divide the opening into an inlet and outlet for the passage way.
3. In a machine of the character described, a casing, a plurality of partitions disposed vertically within the casing and forming a circuitous passage way to divert the air blast, an air blast conduit disposed through the casing and provided with an opening disposed above the inlet and outlet of the passage way, and means carried by the conduit adjacent the opening thereof to divide the opening into an inlet and outlet for the passage way and to form a partition across the conduit to divert the air from the entrance of the conduit into the circuitous passage way and finally into the conduit at the opposite side of the valve.
4. In a machine of the character described, a casing, a plurality of partitions disposed vertically within the casing and dividing the casing into a circuitous air blast diverting passage way, an air blast conduit having an inlet end disposed above and at right angles to the inlet of the circuitous passage way with the outlet exteriorly of the casing, the portion of the conduit above the inlet and outlet of the passage way being open at the bottom thereof, and a valve disposed at the junction of the inlet and outlet of the circuitous passage way and within the conduit for sealing the opening of the conduit or forming a partition across the conduit to divide the opening into an inlet leading into the inlet of the circuitous passageway or an outlet leading therefrom into the conduit.
5. In a machine of the character de-

scribed, a casing, a plurality of partitions disposed vertically within the casing and dividing the casing into a circuitous air blast diverting passage way, an air blast conduit having an inlet end disposed above and at right angles to the inlet of the circuitous passage way with the outlet exteriorly of the casing, a portion of the conduit above the inlet and outlet of the passage way being open at the bottom thereof, a valve disposed at the junction of the inlet and outlet of the circuitous passage way and within the conduit for sealing the opening of the conduit or forming a partition across the conduit to divide the opening into an inlet leading into the inlet of the circuitous passage way or an outlet leading therefrom into the conduit, and manually operated means accessible from the exterior of the casing for manipulating the valve.

6. In a machine of the character described, a casing, having a circuitous air blast diverting passage way provided therein, an air blast conduit carried by the casing and extending transversely and at one side thereof, the inlet end of the conduit being from above the casing and at right angles to the main body of the casing, the lower portion of the junction between the inlet and the main body of the conduit and above the inlet of the passage way being open at the bottom thereof, said conduit at the portion adjacent to the outlet of the passage way also being provided with an opening, a valve mounted in the conduit and provided with a curved end to corre-

spond with the open portion of the conduit above the inlet of the passage way and with a straight end to close the opening above the outlet of the passage way, said straight end being disposed to form an inclined partition across the conduit to form a diverting means for the air blast entering the inlet of the conduit, and means for operating the valve.

7. The combination with a chamber having a circuitous passage way, of an air blast conduit mounted therein comprising a vertically disposed inlet portion, an outlet portion at right angles thereto and having an opening in the lower wall adjacent the inlet end thereof, a connection between the inlet and outlet portions of the conduit consisting of an upper curved wall and two aprons, a curved plate pivoted to the inlet portion of the conduit for bridging the adjacent portions of the aprons, another plate having a straight and a curved end pivoted adjacent the inlet end of the horizontal portion of the conduit, the straight end being provided to close the opening of the horizontal conduit while the curved portion coacts with the curved plate for bridging the remainder of the aprons, and manually operated means for simultaneously opening and closing said plates.

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

MICAJAH R. DAVIS.

Witnesses:

THOMAS E. REARDON,
Mrs. O. CARTER.