

C. C. EPPS.
COTTON GIN.

APPLICATION FILED APR. 10, 1907.

910,653.

Patented Jan. 26, 1909.

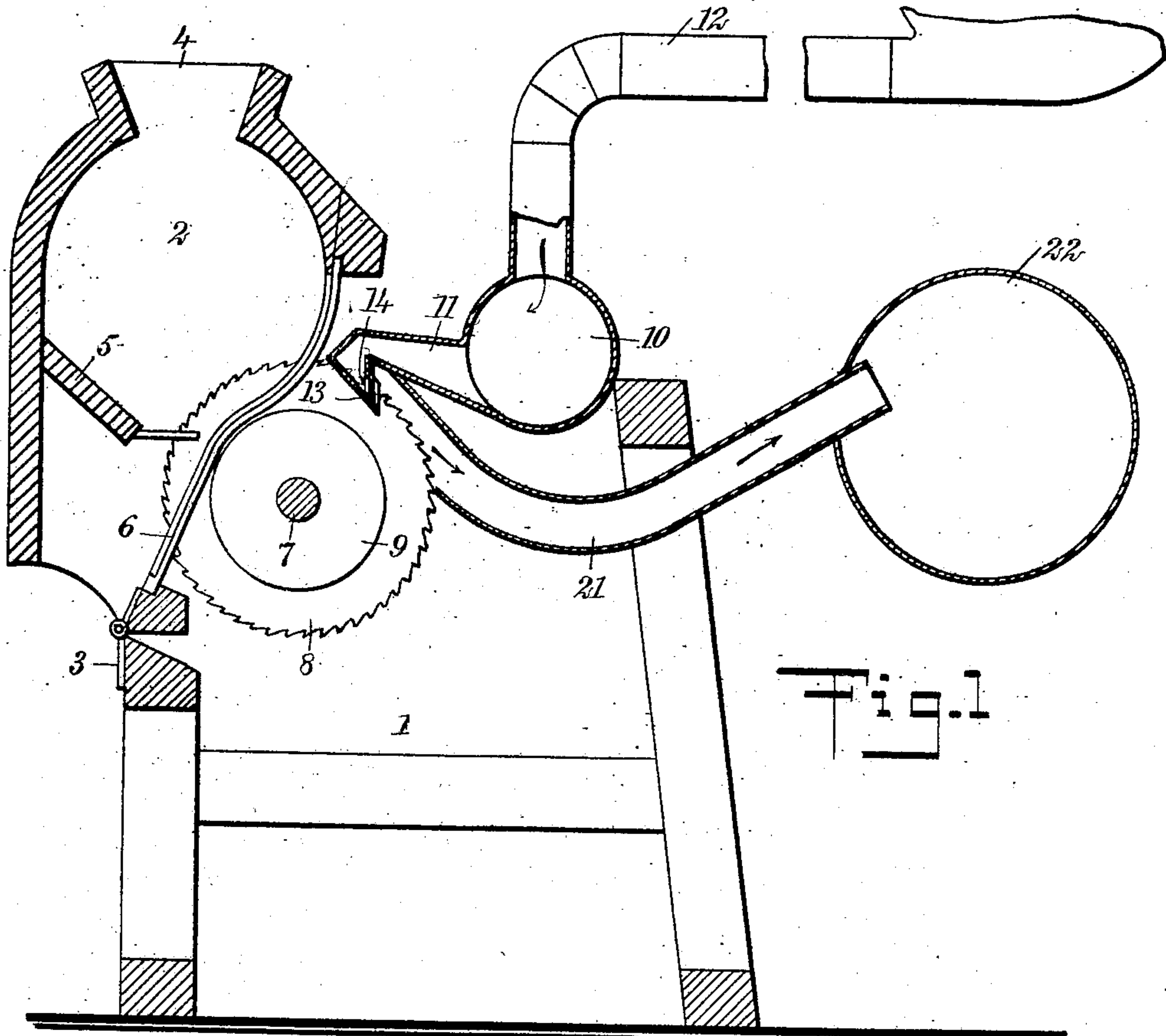


Fig. 1

Fig. 2

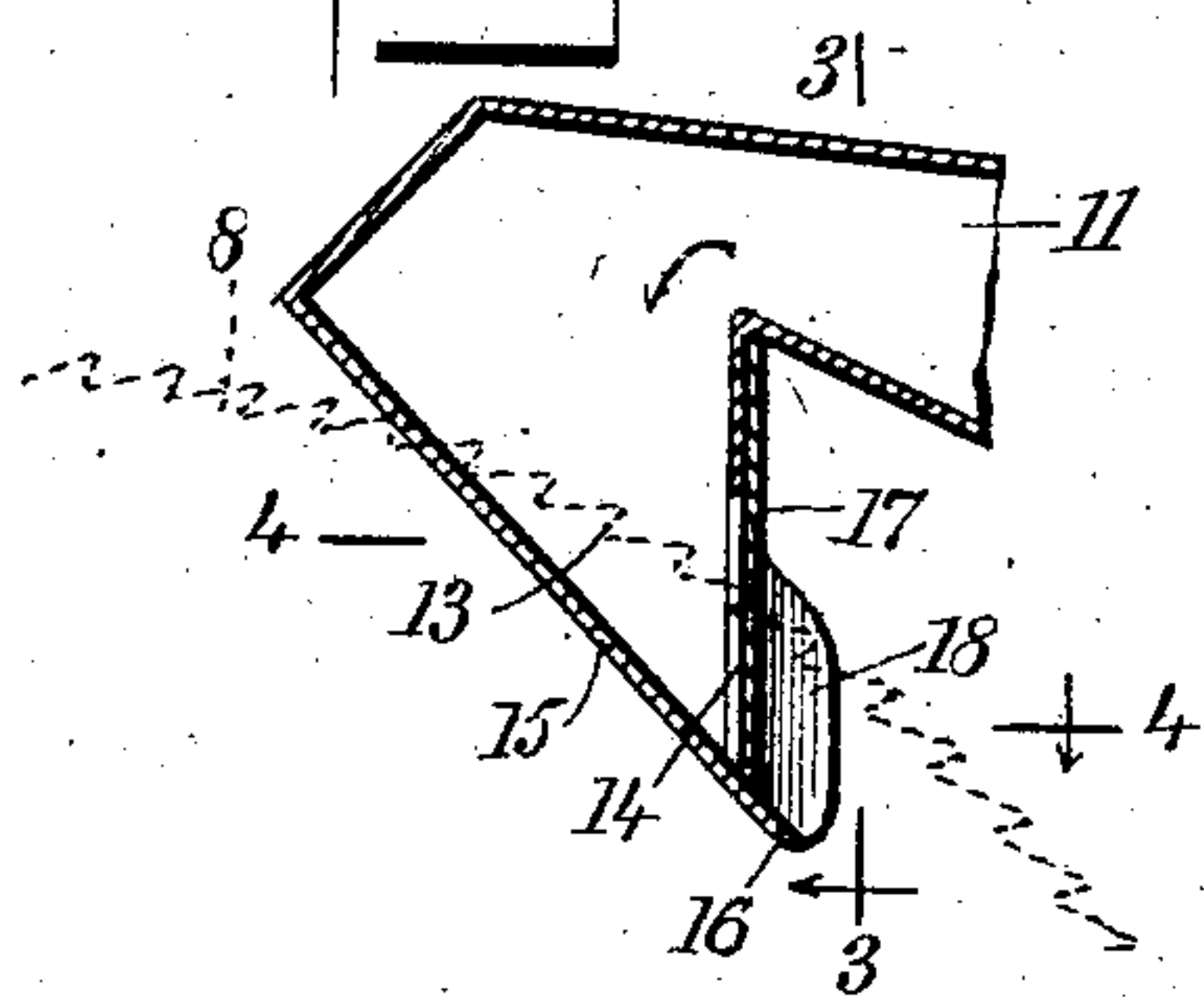


Fig. 3

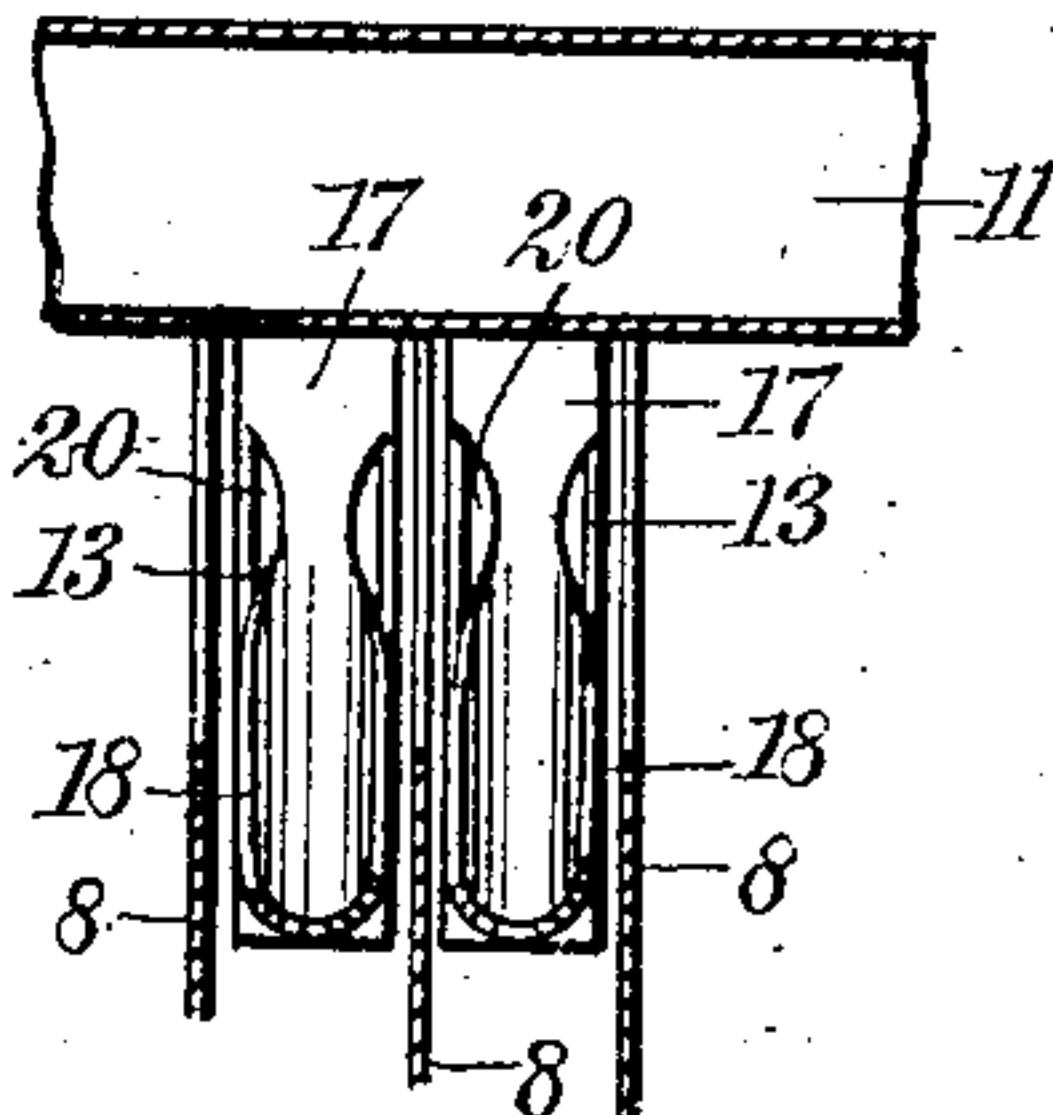
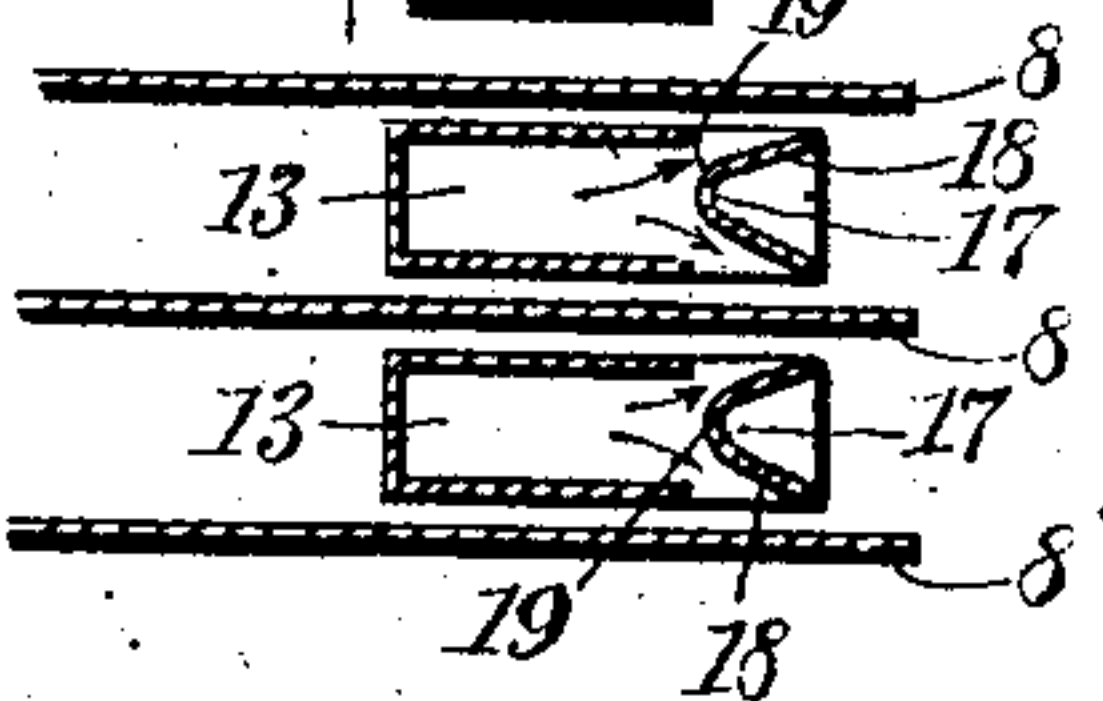


Fig. 4



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UNITED STATES PATENT OFFICE.

CLINTON CALVIN EPPS, OF SOUTHMAYD, TEXAS, ASSIGNOR TO AIR BLAST GIN COMPANY,
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COTTON-GIN.

No. 910,653.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed April 10, 1907. Serial No. 367,363.

To all whom it may concern:

Be it known that I, CLINTON CALVIN EPPS, a citizen of the United States, and a resident of Southmayd, in the county of Grayson and State of Texas, have invented a new and Improved Cotton-Gin, of which the following is a full, clear, and exact description.

This invention relates to cotton gins and is particularly useful in connection with devices of this class wherein the lint is removed from the gin saws by means of an air blast.

The object of the invention is to provide a simple, strong and durable cotton gin wherein the air blast, by means of which the lint is removed from the teeth of the gin saws, is directed against the same in a particularly effective manner.

The invention consists in the construction and combination of parts to be more particularly described hereinafter and fully set forth in the claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a vertical cross-section through a cotton-gin embodying my invention; Fig. 2 is an enlarged vertical cross-section of the nozzle by means of which the air-blast is directed; Fig. 3 is a vertical cross-section on the line 3—3 of Fig. 2; and Fig. 4 is a horizontal cross-section on the line 4—4 of Fig. 3.

Like characters of reference indicate corresponding parts in all the views.

Referring more particularly to the drawings I provide a support frame 1, to which is removably secured by means of a hinge 3, the gin-breast 2 having a hopper-opening 4 for feeding the cotton into the device. The gin-breast 2 comprises the usual seed-board 5 and the grate 6. Mounted substantially parallel to the gin-breast 4 is a shaft 7 upon which is rigidly mounted a gang of gin saws 8 separated by spacing blocks 9. The gin saws 8 extend partly through the grate 6 into the gin-breast, in the usual manner.

An air-chamber 10, preferably of sheet-metal and cylindrical in form, is carried by the supporting frame, substantially parallel to the gang of saws. The air chamber 10 has an integral head 11 communicating interiorly with the chamber and extending towards the saws. A tube 12 communicating with the air chamber 10 conducts an air blast from a suitable blower into the chamber 10, which acts as distributing means to conduct the blast through the head 11 to the

saws. At the extremity of the head 11 is a plurality of nozzles 13 disposed downwardly and having openings 14 discharging in the direction of rotation of the saws. The nozzles are so arranged that the air is discharged therefrom through the openings 14 in a direction substantially parallel to a plane tangent to the peripheries of the saws. The arrangement is such that a nozzle is located between the blades of each adjacent pair of saws of the gang, the opening of the nozzle being adjacent to the teeth of the saw and extending slightly below the same as is shown most clearly in Fig. 2. At the lower edge of each opening of the nozzles the bottom 15 of the same is extended to form a lip 16.

Mounted upon the lip 16 and extending across the opening of the nozzle to the upper portion of the same is a guide plate 17 having the sides 18 laterally disposed at an angle with each other to form a V-shaped deflecting member adapted to divide the blast from each nozzle and direct the divided blast against the adjacent saw blades, the edge 19 of the deflecting member being arranged adjacent to the opening. The guide plate 17 is cut away into recesses 20 above the side 18, to permit a part of the air to escape from the nozzle undeflected, and in a direction substantially parallel to the plane of the saw blades.

Mounted upon the supporting frame 1 is an off-take chute 21 arranged underneath the head 11 and having its receiving opening located to receive the lint-charged air blast from the nozzles. The off-take chute 21 communicates with a condenser 22 to receive the lint. The condenser may be of any usual or preferred construction.

The arrangement of the nozzles in my invention is such that an air blast is directed substantially parallel to the plane of the saw blade and adjacent to the teeth of the same. In this way the lint is expeditiously and thoroughly removed from the teeth of the gin saws and forwarded to the off-take chute for removal from the gin.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a cotton gin, in combination, a gin saw, and means for directing converging air blasts against the teeth of said saw at the sides thereof.

2. In a cotton gin, in combination, a gin

saw, and means for directing converging air blasts against the teeth of said saw at the sides thereof, said air blasts being directed substantially in a plane tangential to the periphery of said saw.

3. In a cotton gin, in combination, a gin saw, and means for simultaneously directing an air blast against the teeth of said saw and a second air blast in a direction substantially parallel to the plane of said saw.

4. In a cotton gin, gin saws, and a nozzle between adjacent saws, said nozzles having means for directing divergent air blasts against said adjacent saws.

5. In a cotton gin, a plurality of gin saws, nozzles between the blades of each adjacent pair of saws, means for forcing air through said nozzles, and means for directing the air from each nozzle in divergent blasts against adjacent saw blades.

6. In a cotton gin, a plurality of gin saws, nozzles between the saws of each adjacent pair, means for forcing air through the said nozzle, and a directing member mounted at

each nozzle and adapted to direct the air from each nozzle in divergent blasts against the adjacent saw blades.

7. In a cotton gin, a pair of gin saws, a nozzle mounted between said saws and having an opening discharging in the direction of rotation of said saws, and a guide plate mounted at said opening and having laterally-disposed sides adapted to direct an air blast from said nozzle against each of said saws.

8. In a cotton gin, a gin saw, a nozzle mounted adjacent to said saw and having an opening discharging in the direction of rotation of said saw, and a plate mounted at said opening and partially obstructing the same, said plate being adapted to deflect air from said opening against said saw.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLINTON CALVIN EPPS.

Witnesses:

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A. T. BOHRER.