O. W. McDONALD.

AIR BLAST APPARATUS FOR COTTON GINS.

APPLICATION FILED SEPT. 8, 1909.

976,671. **Patented Nov. 22, 1910.**

2 SHEETS—SHEET 1.

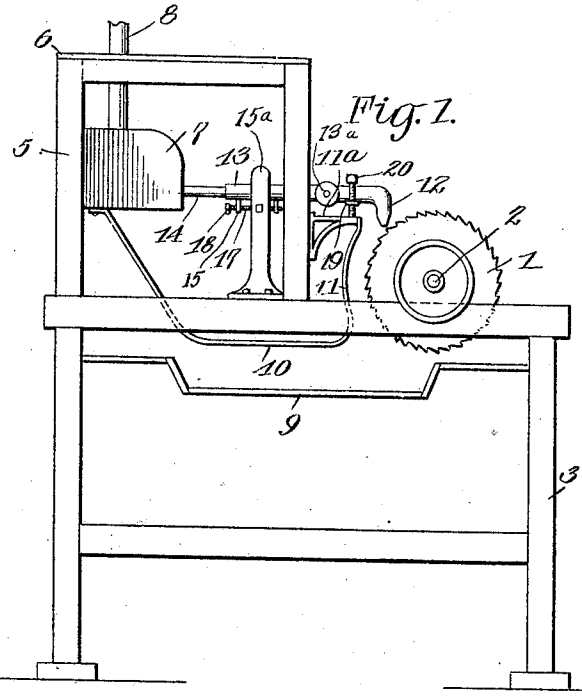


Fig. 1.

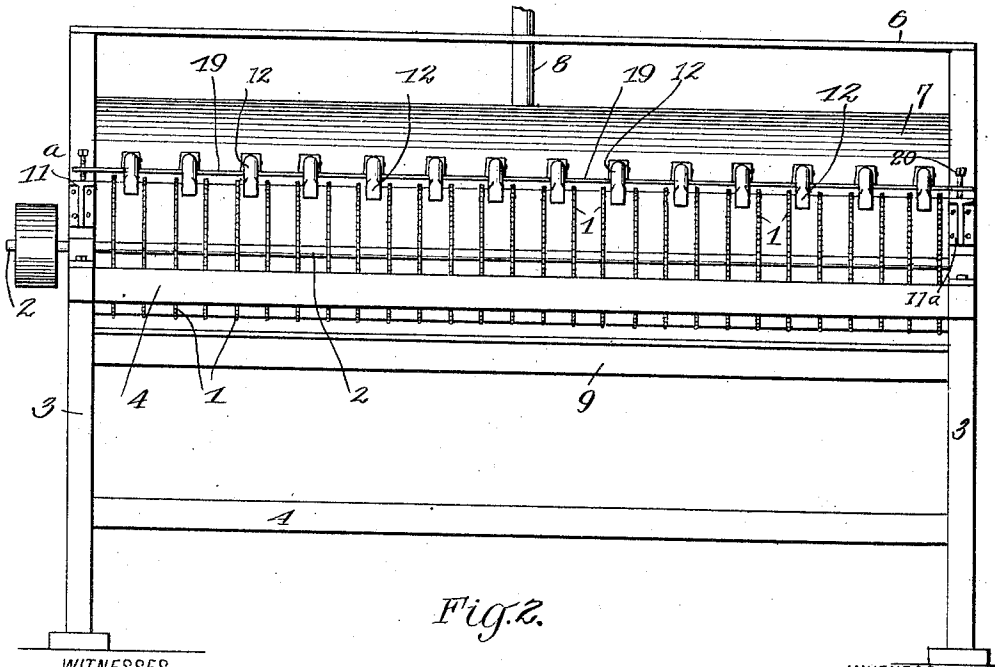


Fig. 2.

WITNESSES

Samuel E. Wade.

C. E. Trainor

INVENTOR

OSMON W. McDONALD

BY Munn & Co.

ATTORNEYS

O. W. McDONALD.

AIR BLAST APPARATUS FOR COTTON GINS.

APPLICATION FILED SEPT. 8, 1909.

976,671.

Patented Nov. 22, 1910.

2 SHEETS—SHEET 2.

Fig. 3.

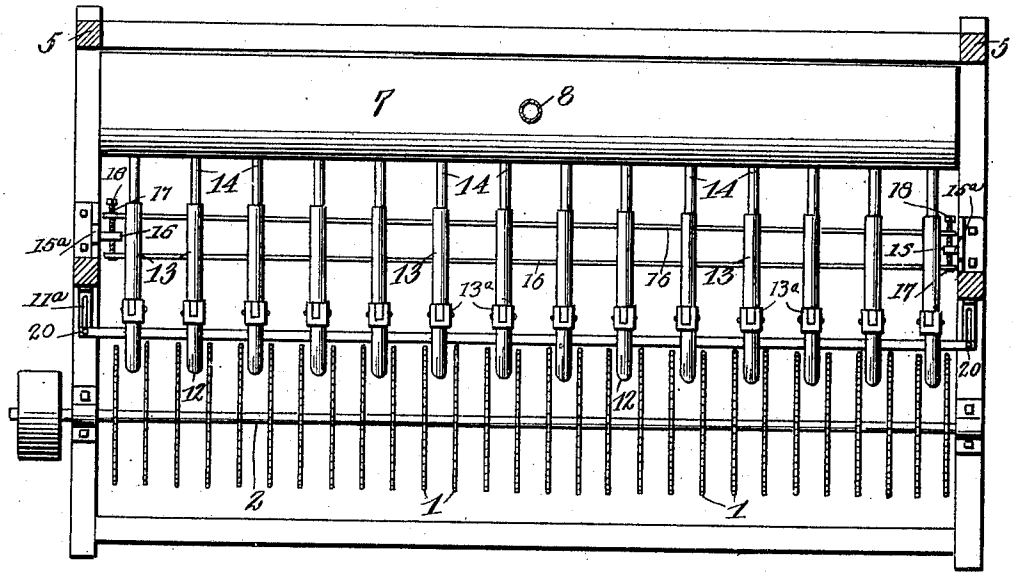
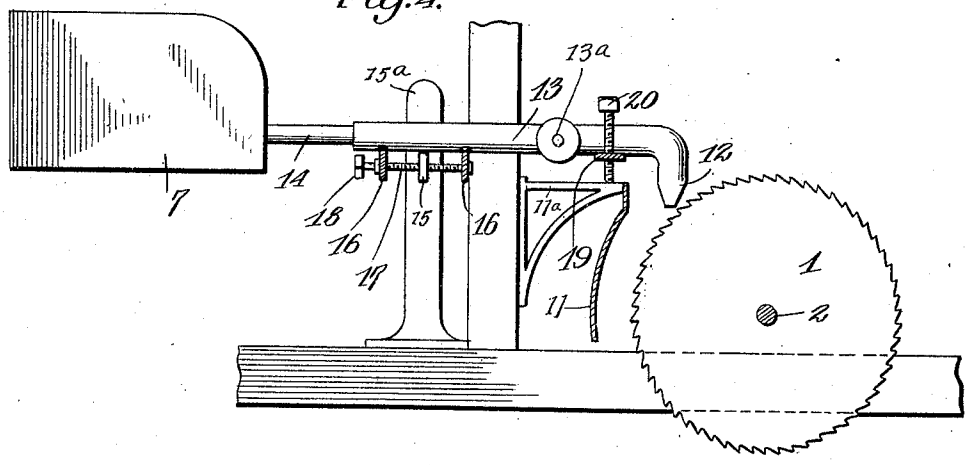


Fig. 4.



WITNESSES

Samuel E. Wade

C. E. Brown

INVENTOR

OSMON W. McDONALD

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

OSMON W. McDONALD, OF RISING STAR, TEXAS.

AIR-BLAST APPARATUS FOR COTTON-GINS.

976,671. Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed September 8, 1909. Serial No. 516,692.

To all whom it may concern:

Be it known that I, OSMON W. McDONALD, a citizen of the United States, and a resident of Rising Star, in the county of Eastland, State of Texas, have invented certain new and useful Improvements in Air-Blast Apparatus for Cotton-Gins, of which the following is a specification.

My invention is an improvement in air blast apparatus, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide an apparatus of the class described for cleaning the lint from the saws of cotton gins in a more effectual manner and more economically than the usual brushes.

Referring to the drawings forming a part hereof; Figure 1 is an end view of the improvement; Fig. 2 is a front view; Fig. 3 is a longitudinal section; and Fig. 4 is an enlarged detail view of a portion of the improvement.

In the embodiment of the invention shown in the drawings the saws 1 are supported on the usual mandrel 2, which is supported on the usual frame, consisting in the present instance of end frames 3 and connecting longitudinal bars 4, and upon the said frame is supported an auxiliary frame consisting of end pieces 5 and connecting longitudinal bars 6.

An air chamber 7 is supported by the auxiliary frame, extending the full length thereof, and the chamber is connected by a pipe 8 with a suitable source of fluid under pressure. A suitable receptacle is arranged below the saws for receiving the lint, the receptacle consisting of a lower plate 9 and an upper plate 10, which extends from the chamber forwardly to a point adjacent to the saws and thence upwardly behind the saws and backwardly to a connection with the frame, forming a shield 11 behind the saws and a support 11^a above the saws.

A nozzle is arranged between each pair of saws, the said nozzle consisting of an angular portion 12 delivering at the rear edge of the saws, and a horizontal portion 13 connected with the angular portion by a hinge joint 13^a and connected with a nipple 14 extending forwardly from the air chamber, and the horizontal portion is slidable on the nipple, as indicated in Fig. 4.

The nozzles are supported by the support 11^a before mentioned, and by a plurality of spaced plates 16, to which the nozzles are secured near their rear ends. A short bar 15 projects inwardly at each side of the frame from a standard 15^a on the frame, and a rod 17 is threaded through each of the bars 15, the said rod being journaled in the plates 16. The rod 17 is provided with a head 18, and it is evident that when the said rods are turned, the nozzles will be moved simultaneously toward or from the saws. The nozzles are also secured near their front ends to a bar 19, through each end of which is threaded a set-screw 20, and the ends of the screws rest upon the support 11^a so that by turning the screws the free ends of the nozzles may be raised or lowered.

It will be evident that when the rods 17 are turned in one direction, the nozzles will be simultaneously moved toward or from the saws, depending upon the direction of rotation of the rods. When the screws 20 are turned, the nozzles will be swung simultaneously on the hinged connection upwardly or downwardly in accordance with the direction of rotation of the said screws.

In operation, the nozzles are adjusted to the proper position with respect to the saws by the rods 17 and the set-screws 20, and when the gin commences operation the air is turned on. It will be observed that the current of air acts in the direction of the inclination of the teeth, so that the cotton is stripped therefrom and delivered into the receptacle.

Each of the lower ends of the set screws 20 rests in a groove in the support, the grooves being arranged transversely of the support, so that the said ends may be guided in their movement, when the nozzles are moved toward and from the saws.

I claim:

1. The combination with the saws and the framework for supporting the same, of an auxiliary frame behind the saws, an air chamber supported thereby, a nipple extending from the chamber adjacent to each pair of saws, a nozzle between each pair of saws comprising a straight portion slidable on the nipple, and an angular portion hinged to the horizontal portion and delivering between the saws, bars secured to the frame work beneath the straight portions of the nozzles, a plate secured to each of said portions on each side of the bars, rods journaled in the ends of the plates and threaded through the bars, a support beneath the an-

gular portions of the nozzle, a bar to which all of said portions are secured, and a set-screw threaded through each end of the bar and engaging the support.

2. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, a pair of plates to which each of said straight portions is secured, fixed bars between the said plates, rods journaled in the ends of the plates and threaded through the bars, and means for simultaneously adjusting the angular portions of the nozzles vertically toward and from the saws.

3. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, means for simultaneously adjusting the straight portions longitudinally, and means for simultaneously adjusting the angular portions vertically.

4. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, means for simultaneously adjusting the straight portions longitudinally, means for simultaneously adjusting the angular portions vertically, and a shield behind the saws.

5. The combination with the saws of a gin, of a source of fluid under pressure, a nozzle delivering between each pair of saws and connected with the source, each of said nozzles comprising a straight portion connected with the source, and an angular portion hinged to the straight portion, means for adjusting the straight portions longitudinally, and means for swinging the angular portions on the straight portions.

6. The combination with the saws of a gin, of a shield behind the saws, a receptacle below the saws, a source of fluid under pressure, and a nozzle connected therewith and delivering between each pair of saws, each of said nozzles consisting of a straight portion adjustable horizontally toward and from the saws, and an angular portion adjustable vertically, said portions being hinged together.

OSMON W. McDONALD.

Witnesses:
D. J. JOBE,
T. W. HAYMES.