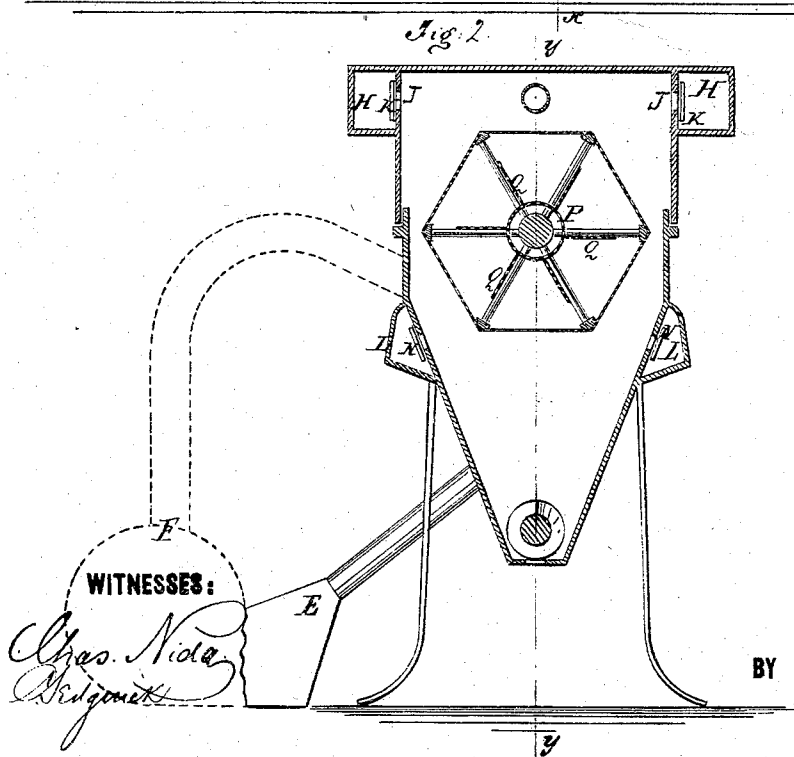
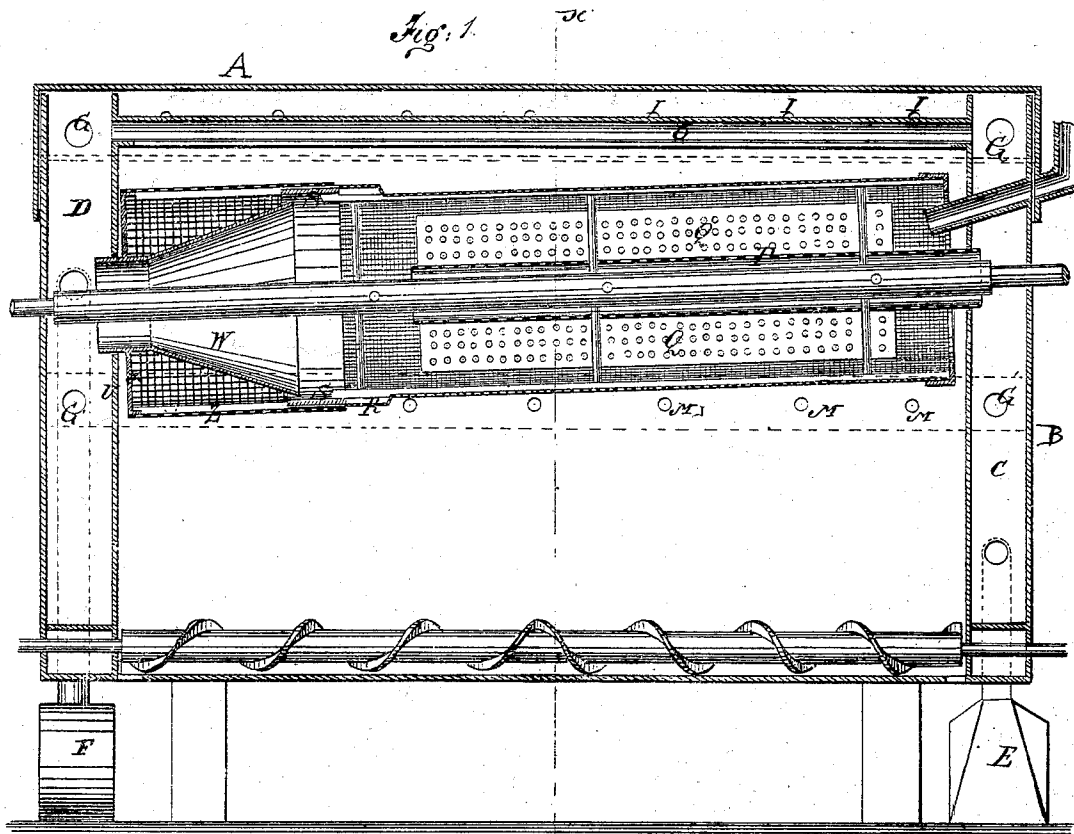


G. W. BROWN.
Flour and Middlings-Purifiers.

No. 147,598.

Patented Feb. 17, 1874.



WITNESSES:

Chas. N. Adams
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BY

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UNITED STATES PATENT OFFICE.

GEORGE W. BROWN, OF METROPOLIS, ILLINOIS.

IMPROVEMENT IN FLOUR AND MIDDINGS PURIFIERS.

Specification forming part of Letters Patent No. **147,598**, dated February 17, 1874; application filed January 5, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. BROWN, of Metropolis, in the county of Massac and State of Illinois, have invented a new and Improved Flour and Middlings Purifier, of which the following is a specification:

My invention is an improvement in the class of middlings-purifiers in which blast and suction fans are employed, and relates to the construction and arrangement of parts, as specifically indicated in the claims, and which are hereinafter described generally in connection with other devices necessary to form a complete or operative machine.

Figure 1 is a longitudinal sectional elevation of my improved bolting apparatus, and Fig. 2 is a transverse section taken on the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A and B represent the bolting-chest, which will be lined or sheathed with thin sheet metal, strong paper, or any other suitable substance capable of preventing air from entering or escaping except at the passages provided for it. C represents an air-chamber partitioned off from the reel-space at the head of the chest, and D is another at the tail. E is a pressure-blower connected with chamber C, and F is a suction-blower connected with chamber D. The blast-fan E and the suction-fan F will have regulating-gates for controlling the blasts. H represents long air-trunks extending the whole length of the chest at the top, and communicating with air-chambers C and D by passages G, also communicating with the reel-space by the passages J, having regulating gates or valves K. L are other longitudinal trunks extending along the sides at the top of the fall-boards, and also communicating with air-chambers C and D by passages G, and with the reel-space by the passages M, the latter being regulated by valves N. O is a large tube extending from air-chamber C to D, through the reel-space above the reel, and having a long slot or perforations in the lower side to discharge the air down upon the reel for clearing it by blowing through the meshes. P is a large perforated tube surrounding the reel-shaft, and extending from air-chamber C through the partition separating it from the

reel-space into the latter, and nearly to the tail end, to conduct air from chamber C into the reel and distribute it in all directions. Q represents long radial vanes or plates attached to the perforated tube and the reel-arm, to direct the air distributed from the perforated tube upon the reel-cloth equally, also to aid in separating the material to be bolted. At the tail end of the fine cloth or screen it is enlarged a little, as shown at R, for the application of a smooth wide ring, S, of thin sheet metal at the point where the coarse tail-screen T is connected. Within this ring the mouth of a large sheet-metal funnel, W, terminates, which extends at its smaller end into the air-space D, passing out through the tail end of the reel, which is otherwise closed.

The pressure-blower is designed to blow air directly into the reel through the perforated tube, or into the reel-space through chambers H or L, or through the pipe or tube O, while the suction-fan is to draw the air out through the funnel, also through trunks H.

When purifying flour, the tail end X of the reel is removed to pass the bran and other offal to the space below, but for middlings it is left on, as represented in the drawing, and the suction is allowed to draw through the funnel W.

The general idea of the invention is to enable the attendant to force any amount of air that may be required into the chest or inside the reel, or both, and withdraw it, as may be required by the different kinds, qualities, and conditions of grain, suitable valves being employed to regulate and control the currents.

By the long trunks H along the top of the chest communicating with both air-chambers C and D, air may be blown into the reel-space with the pressure-fan, or sucked out to draw out impurities with the other.

By the trunks L along the sides of the reel above the fall-boards, air is to be forced in below the reel to clean the fall-boards and facilitate the descent of the flour to the conveyer below, also to act on the under side of the reel.

The perforated tube P on the shaft facilitates the separation of the material bolted by the jets of air it lets in from the pressure-chamber C. The coarse-wire wings on the perforated tube separate the material falling on them. The smooth ring S, fitted in the en-

larged portion of the reel at the mouth of the funnel, is to carry the remaining unbolted material quickly under or beyond the mouth of funnel to the coarse tail-screen Z beyond, or be passed out at the tail end to a receiver below. The funnel is for drawing the impurities out of that portion of the reel through which the fine matters are bolted, while preventing the escape of the coarser particles from the tail portion.

The material collecting in the suction-chamber will be removed from time to time through a suitable aperture therefor in the case, having a door or gate for closing it.

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

1. The pressure-chamber C, suction-chamber D, provided with openings G and fans E F, the bolting-reel, slotted tube O, and trunks H and L, all combined, constructed, and arranged as shown and described, to operate as specified.

2. The combination of the trunks L with the pressure and suction chambers C D, reel-chest, and fall-boards, substantially as specified.

3. The combination of the sheet-metal band S with the reel and funnel, substantially as specified.

GEORGE WASHINGTON BROWN.

Witnesses:

J. L. GEBHART,
W. OVERTON.