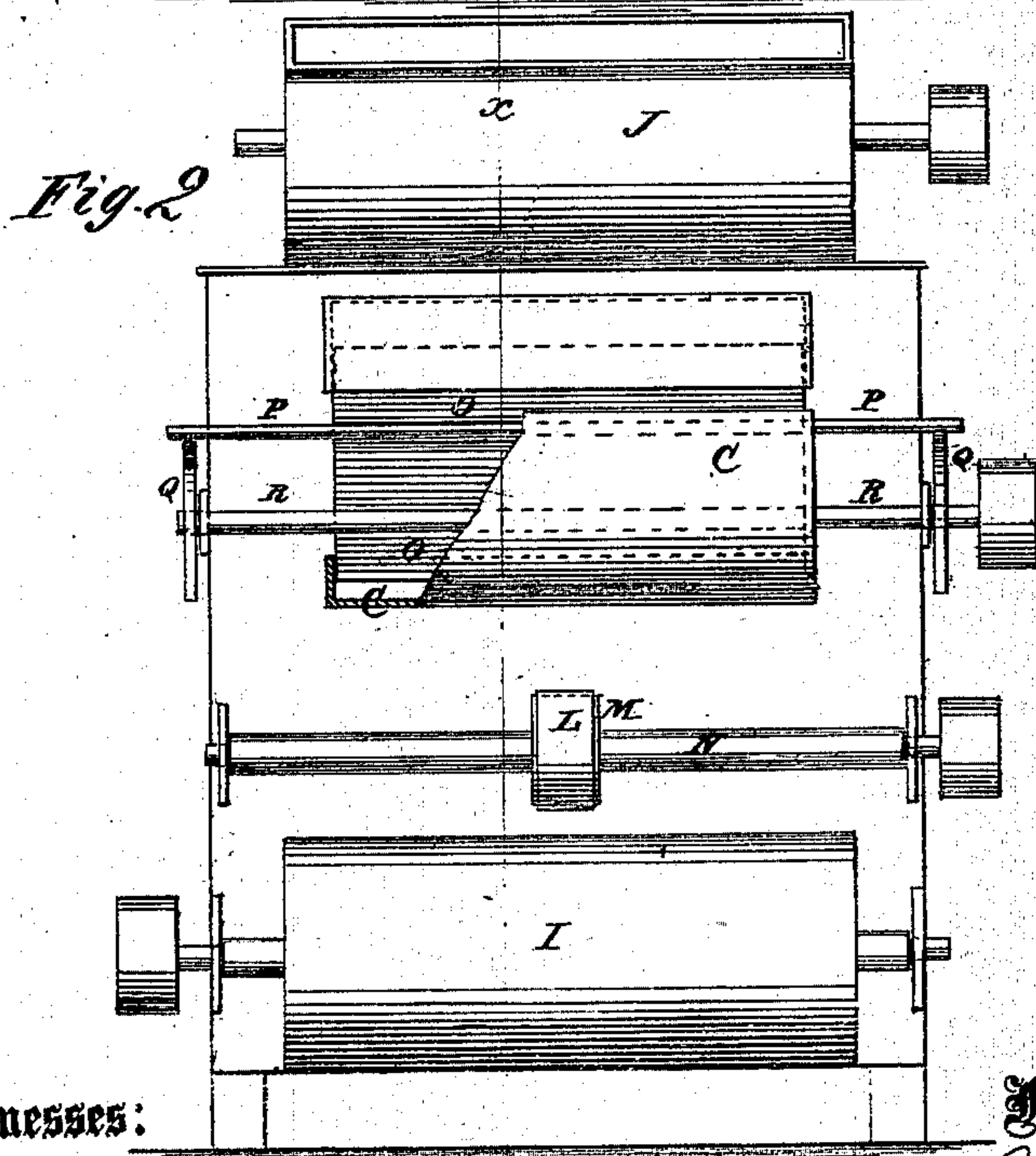
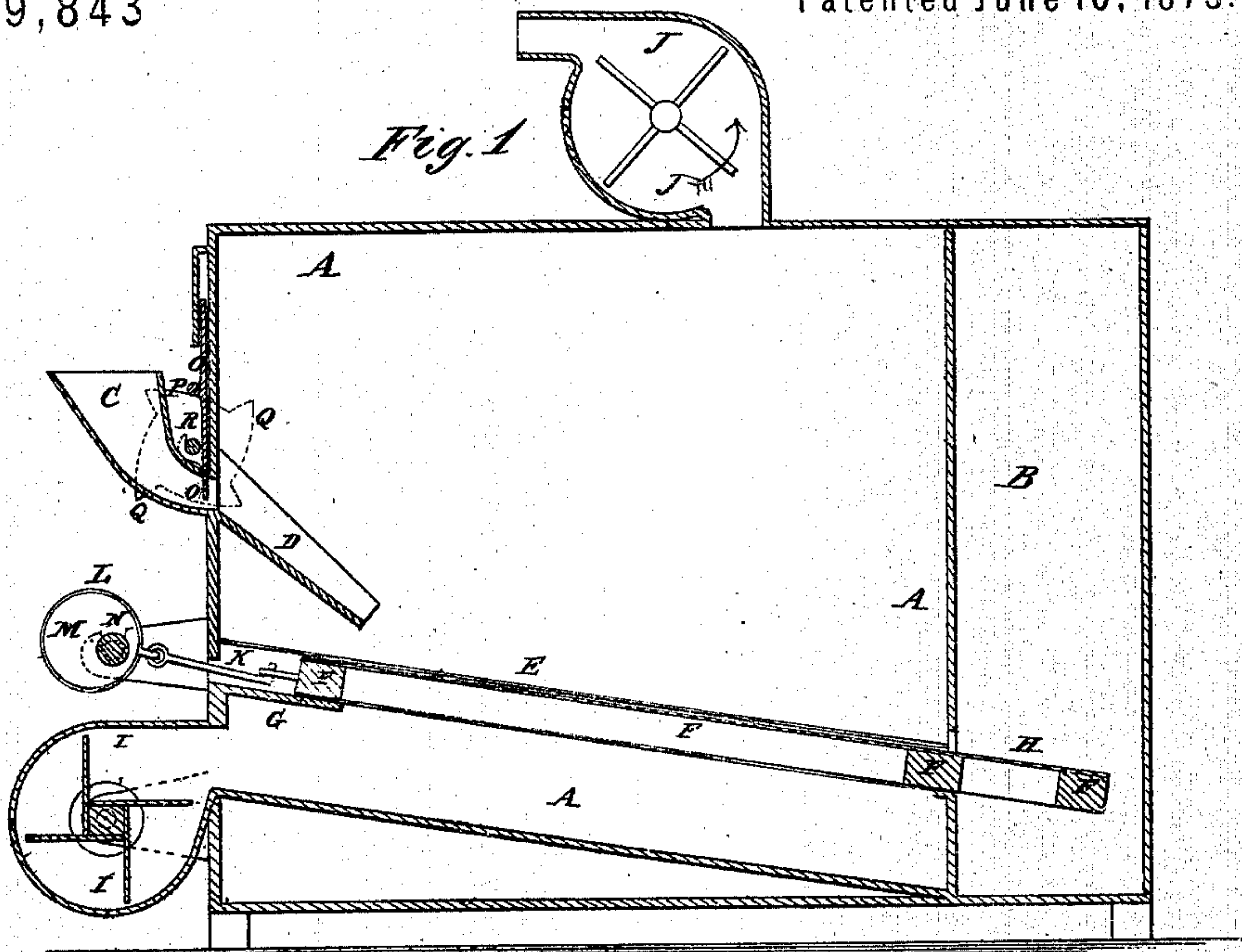


J. W. WILSON.  
Middlings-Purifiers.

No. 139,843

Patented June 10, 1873.



Witnesses:

*A. W. Almqvist*  
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*J. W. Wilson*  
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PER



# UNITED STATES PATENT OFFICE.

JOSEPH W. WILSON, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN W. VOSE, OF SAME PLACE.

## IMPROVEMENT IN MIDLINGS-PURIFIERS.

Specification forming part of Letters Patent No. **139,843**, dated June 10, 1873; application filed January 11, 1873.

*To all whom it may concern:*

Be it known that I, JOSEPH W. WILSON, of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Middlings-Cleaner and Separator, of which the following is a specification:

Figure 1 is a detail vertical section of my improved machine taken through the line *x x*, Fig. 2. Fig. 2 is a front view of the same, part of the feed-hopper being broken away to show the construction.

The invention consists in using a fan-blower and exhaust-fan, in connection with a sieve so fine as to allow the passage of no middlings therethrough while being cleaned.

A is an air-tight chamber, at the rear end of which is formed a smaller chamber, B. C is the hopper into which the middlings are introduced, and from which they are fed into the spout D through a slot in the forward end wall of the chamber A. From the spout D the middlings fall upon the screen-cloth E. The forward end of the screen-frame F rests upon a flange, G, attached to the lower part of the front-end wall of the chamber A. The rear end of the screen-frame F passes through the wall that separates the chambers A B. The frame F is divided into two parts by a cross-bar which rests upon the edge of the slot in the wall that separates the chambers A B, and which is made of such a width that it will always rest upon said edge. The part of the screen-frame F within the chamber A is made of very fine cloth, E, so that no part of the middlings will pass through it. The part of the screen-frame F within the chamber B is covered with a cloth, H, of such fineness that the granulated parts of the middlings will pass through it into a spout, (not shown in the drawings,) by which they are carried off to a receiver. The coarse part of the middlings falls over the lower end of the screen into a receiver. I is a fan-blower placed in front of the machine, and the blast from which is introduced into the chamber A below the screen E F H. Above the machine is placed an exhaust-fan, J, by which the air from the air-chamber A is drawn off and discharged into a receiver. K is a connecting-rod, which passes through a hole in the front wall of the chamber A, and its inner end is attached to the forward end of the screen-frame F. The outer end of the rod K

is connected with the strap L of the eccentric-wheel M attached to the shaft N, which revolves in bearings attached to some suitable support at the forward end of the machine, so that by the revolution of the shaft N a longitudinal movement will be given to the screen E F H. O is a cut-off plate, which moves up and down in keepers or guides attached to the front end of the machine. The lower edge of the plate O enters a slot in the throat of the hopper C, so that as the said cut-off plate descends the entrance of the middlings will be intercepted, and they will thus be fed intermittently to the screen. The plate O is attached to the rod P, the ends of which rest upon the cam-wheel Q attached to the ends of the shaft R, which revolves in bearings at the forward end of the machine, so that the cut-off plate may be moved up and down by the revolution of the said shaft R. The fan-shafts, the eccentric-shaft, and the cam-shaft are all driven by pulleys and belts from any convenient power.

By this construction, as the middlings are fed into the machine intermittently, each portion is subjected to the blast from the fan-blower I, which causes the fine woody fiber, dust, and all other impurities to rise into the upper part of the chamber A, where they are subjected to suction from, and are drawn off through, the exhaust-fan J. The other parts of the middlings pass down to the coarse cloth H, where they are separated in the manner hereinbefore described.

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

1. In a middlings-purifier, the combination, with a sieve placed in an air-tight chamber, and of such fineness as not to permit the middlings to pass through, of the fans I J, substantially as and for the purpose described.

2. The air-tight chambers A B, hopper C, spout D, fine screen-cloth E, and coarser cloth H, combined with the fans I J, arranged as and for the purpose described.

3. The combination, with hopper C, of the cut-off plate O, rod P, and cam-wheel Q, as and for the purpose described.

JOSEPH W. WILSON.

Witnesses:

EDWIN EVANS,

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