J. J. HALLER.

MIDDLINGS SEPARATORS.

No. 185,026. Patented Dec. 5, 1876.

Fig. 2.

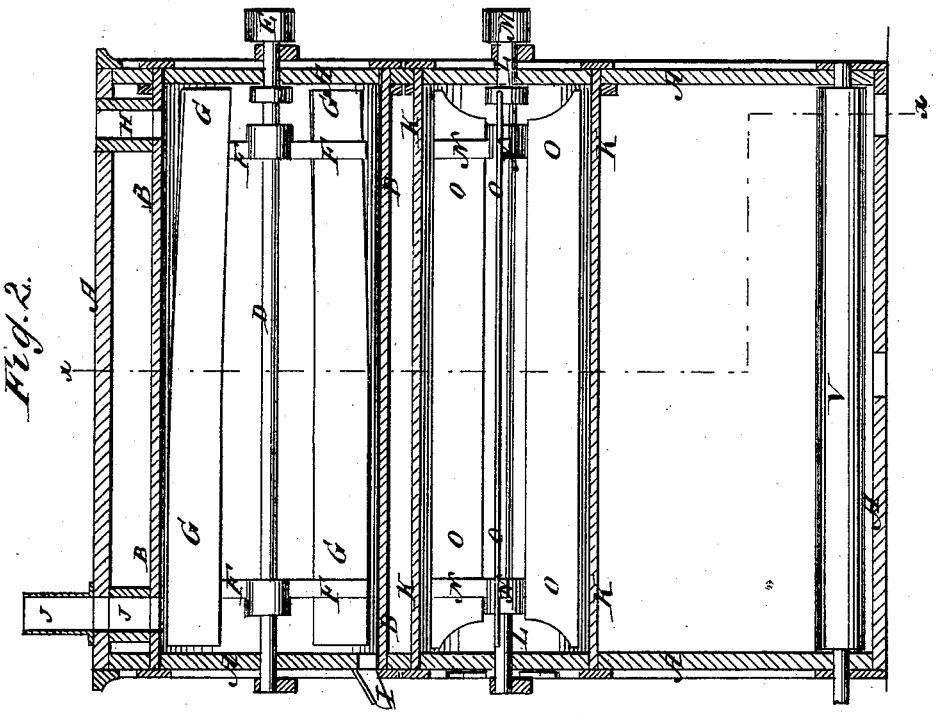
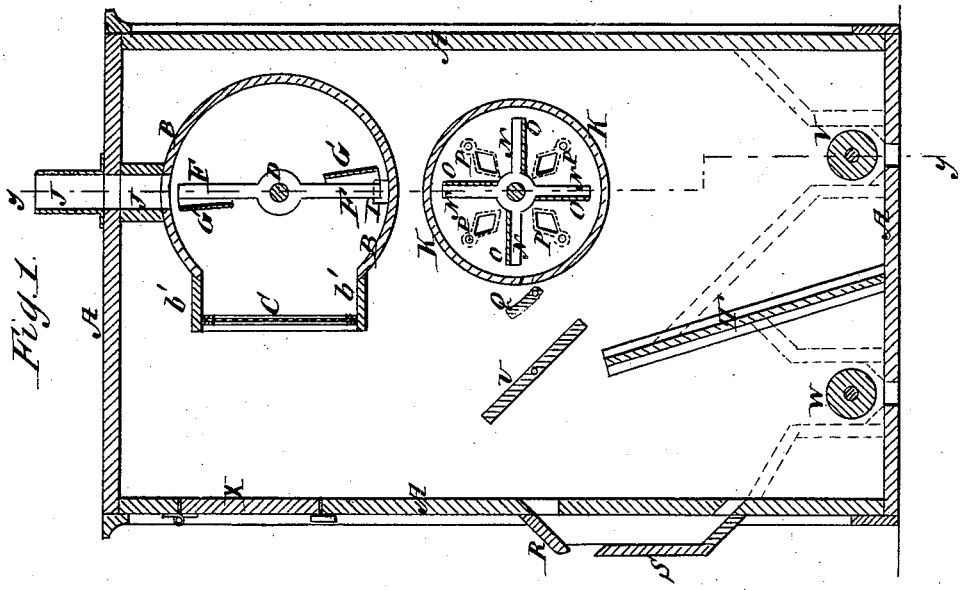


Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN J. HALLER, OF RIPLEY, NEW YORK, ASSIGNOR TO HIMSELF AND JOHN W. BAKER, OF SAME PLACE.

IMPROVEMENT IN MIDDLINGS-SEPARATORS.

Specification forming part of Letters Patent No. **185,026**, dated December 5, 1876; application filed September 2, 1876.

To all whom it may concern:

Be it known that I, JOHN JACOB HALLER, of Ripley, county of Chautauqua and State of New York, have invented a new and useful Improvement in Middlings-Purifier, of which the following is a specification:

In the accompanying drawing, Figure 1 is a vertical cross-section of my improved middlings-purifier, taken through the line X X, Fig. 2, and Fig. 2 is a vertical longitudinal section of the same, taken through the line Y Y, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

In the drawing, A represents a rectangular case, of suitable size, in the upper part of which, and near one side, is secured a cylinder, B. In the inner side of the cylinder B is formed a wide opening extending the entire length of the cylinder, and provided, at its edges, with horizontal flanges *b'*, to and between which is secured a wire screen, C. D is a shaft extending longitudinally through the center of the cylinder B, and revolving in bearings attached to the ends of the case A. To one end of the shaft D is attached a pulley, E, to receive the band by which the said shaft is driven. To the shaft D, within the cylinder B, are attached radial arms F, to the ends of which are attached long blades or paddles G, which blades or paddles are slightly spiral, so as to move the middlings gradually from the head of the cylinder B toward its tail while dashing them constantly against the screen C. The middlings are fed in at the head of the cylinder B through a spout, H, passing in through the top of the case A, and the bran escapes at the tail of the cylinder B through a discharge-spout, I, leading out through the end of the case A. J is a ventilating-spout leading out from the tail of the cylinder B through the top of the case A. Directly beneath the cylinder B is secured a smaller cylinder, K, through the center of which passes a shaft, L. The ends of the shaft L revolve in bearings attached to the ends of the case A, and to one of said ends is attached a pulley, M, to receive the band by which the said shaft is driven. To the shaft L, within the cylinder K, are attached radial arms N, to the ends of which are attached longitudinal wings or fans O. In the end of the case A, at the head of the cylinder K, are formed openings to admit air to said cylinder K, which openings are provided with pivoted or sliding dampers P, to enable the quantity of air admitted to be regulated as required. The air is expelled from the cylinder K in a thin sheet through a narrow longitudinal slit in the side of said cylinder, and its direction is regulated by a board, Q, pivoted, at the lower corners of its ends, to the ends of the case A. As the flour passes out through the screen C it is acted upon by the blast from the fan-blower K L N O, and the specks and other light particles are carried out by said blast through the slit or opening in the front of the case A. As the light particles pass out through the said opening they strike the inclined board R attached to the case A, and the heavier particles, having their course checked, fall into the spout or pocket S, while the air and the lighter particles pass off through the space between the lower edge of board R and the upper edge of the spout S. From the bottom of the pocket or spout S an opening leads into the case A to allow the flour to escape from said pocket or spout into the said case, which opening may be provided with a slide to detain the flour in said pocket or spout, when desired. The lower part of the case A is divided into two compartments by an inclined partition, T, to keep the flour that falls from the screen C separate from the lighter particles that fall at the front of the case and that enter from the spout or pocket S. Above the partition T is placed a board, U, which is pivoted at the center of its ends to the ends of the case A, so that by adjusting the said board U a larger or smaller amount of the flour from the screen C may be made to fall into the compartment beneath the cylinders B K to regulate the grade of said flour, as may be required. In the lower parts of the two compartments of the case A

are formed troughs or channels, as indicated by dotted lines in Fig. 1, in which are placed ordinary screw-conveyers V W, which are swiveled to the ends of the case A, and are driven by power applied to the projecting ends of their journals. In the bottom of the case A, beneath the conveyer V, are formed two or more discharge-openings, to enable the flour to be graded, if desired. In the bottom of the case A, beneath the conveyer V, is formed a single discharge-opening. In the upper part of the front of the case A is formed a door, X, to give access to the interior of said case, and which may be provided with windows, if desired.

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

1. In a middlings-purifier, the combination, with the beating and screening cylinder B C D, a fan-blower with air-inlets at its head and a narrow longitudinal slit at the side for spreading the blast in a thin sheet, as shown and described.

2. The combination of case A, the beating and screening cylinder B, the fan-blower, the adjustable deflectors Q V, and the divider T, all arranged with respect to each other as and for the purpose set forth.

JOHN JACOB HALLER.

Witnesses:
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