

H. P. JONES.
Middlings Separators.

No. 138,408.

Patented April 29, 1873.

Fig. 1.

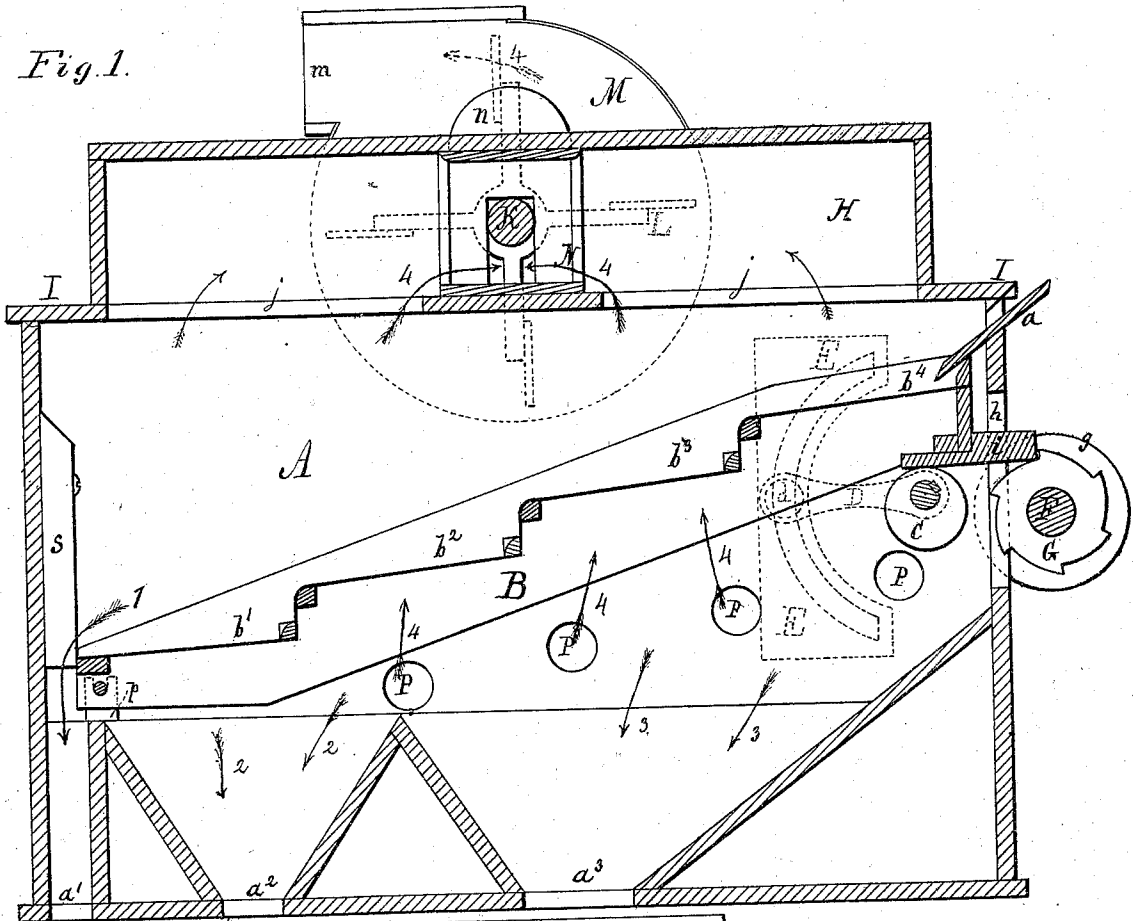
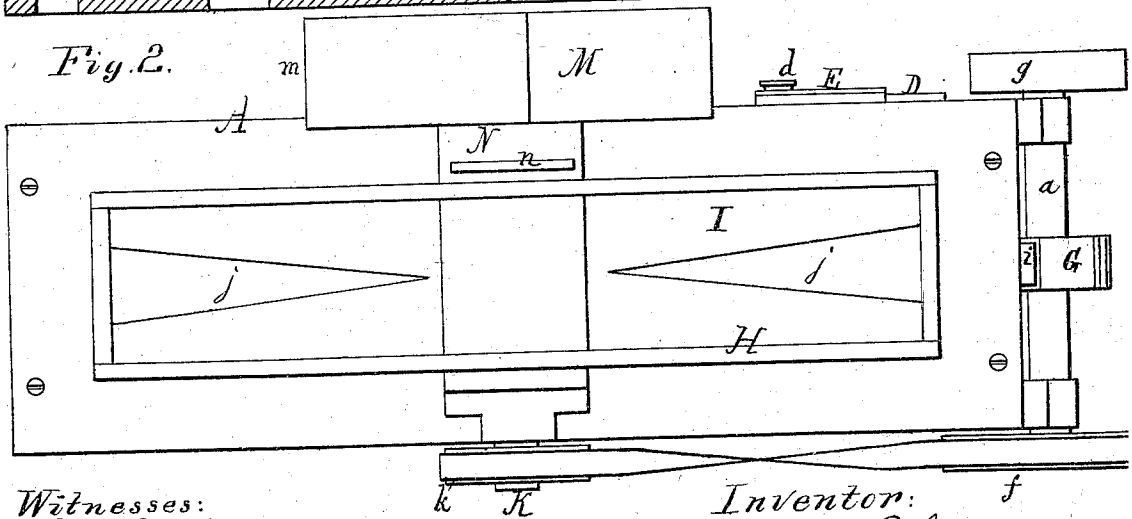


Fig. 2.



Witnesses:
E. A. Bates.
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Inventor:
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UNITED STATES PATENT OFFICE.

HORACE P. JONES, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN MIDLINGS-SEPARATORS.

Specification forming part of Letters Patent No. **138,408**, dated April 29, 1873; application filed February 15, 1873.

To all whom it may concern:

Be it known that I, H. P. JONES, of Springfield, in the county of Clarke and State of Ohio, have invented a new and valuable Improvement in Middlings-Separators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a sectional view of my middlings-separators. Fig. 2 is a plan view of the same with top removed.

My invention relates to certain improvements in middlings-separators; and it consists in the peculiar arrangement and combination of parts, as hereinafter particularly described.

In the drawing, A represents an oblong box or casing, in the upper portion of one end of which is a trough, *a*, through which the middlings enter. B is the sieve, which is divided into four parts, *b*¹ *b*² *b*³ *b*⁴, placed at different heights, as shown, and covered with cloth of different textures to correspond with different grades of middlings. The lower end of the sieve is pivoted in notched plates *p* attached to the sides of the box or casing A, and the upper end rests upon an eccentric, C, attached to a shaft which is journaled in the sides of the box or casing, and on one end of which is an arm, D, having on its outer end a knob, *d*, which works in a curved slot in a plate, E, attached to the outside of the casing. In the bottom of the casing are openings *a*¹ *a*² *a*³, with partitions or guides leading to them from the sieve. At one end of the casing is a shaft, F, journaled in bearings attached to the outside of the end piece. At the ends of the shaft are driving-pulleys *f* *g*, and about midway between them is a trip-wheel, G, which works partly in a slot, *h*, in the end piece, immediately under a bar, *i*, attached to the under side of the upper end of the sieve B, and projecting through the slot *h*. On the top of the casing A is a chamber, H, somewhat small-

er than the casing, and having its bottom formed by the board I, which constitutes the top piece of the casing. In the board I are two openings, *j j*, each tapering to a point near the center of the board. Journaled in the sides of the chamber is a shaft, K, on one end of which is a pulley, *k*, and on the other end is the fan L, which is inclosed in the fan-case M, whose outlet is toward the end opposite to where the middlings enter the machine. A square flue, N, leads from the chamber H to the fan-case M, and has an adjustable gate, *n*, sliding transversely therein for the purpose of regulating the draft of air passing through the machine. The air is admitted from the outside through openings P in the sides of the box or casing, and the current is equalized by passing through the triangular tapering openings in the board I.

The sieve is placed in position by inserting the upper end under the trough *a* and then dropping the lower end until the pivots engage with the plates *p*, in which position it is held by turning down a button, *s*.

Motion is communicated to the shaft F through the pulley *g* or the pulley *f*, and to the fan-shaft by a belt from pulley *f* to pulley *k*. As the shaft F revolves the trip-wheel G imparts a vertical vibratory motion to the sieve, assisting the passage of the middlings through it and preventing it from becoming clogged. The air, which enters through the openings P, passes up through the sieve, through the openings *j j*, the flue N, and the fan-case M, and escapes through the outlet *m*. The bran passes down and descends through the opening *a*¹, as indicated by the arrow marked 1. The screenings descend through the openings *a*² *a*³, as indicated by the arrows 2 and 3, while any chaff which may be present follows the direction of the current, as indicated by arrow 4, and escapes through the outlet *m*.

To vary the amount of vibration given to the sieve, or to raise it from contact with the trip-wheel, the position of the eccentric is changed by moving the arm D upward or downward.

What I claim as new, and desire to secure by Letters Patent, is—

1. The tapering triangular openings *j j* for equalizing the current, in combination with the adjustable gate *n* for regulating the draft of air, arranged substantially as specified.

2. The combination of the pivoted graduated sieve B with the induction-openings P, tapering triangular openings *j j*, flue N, and fan

and casing M, arranged substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HORACE P. JONES.

Witnesses:

GEO. C. RAWLINS,
JAMES RIGBY.