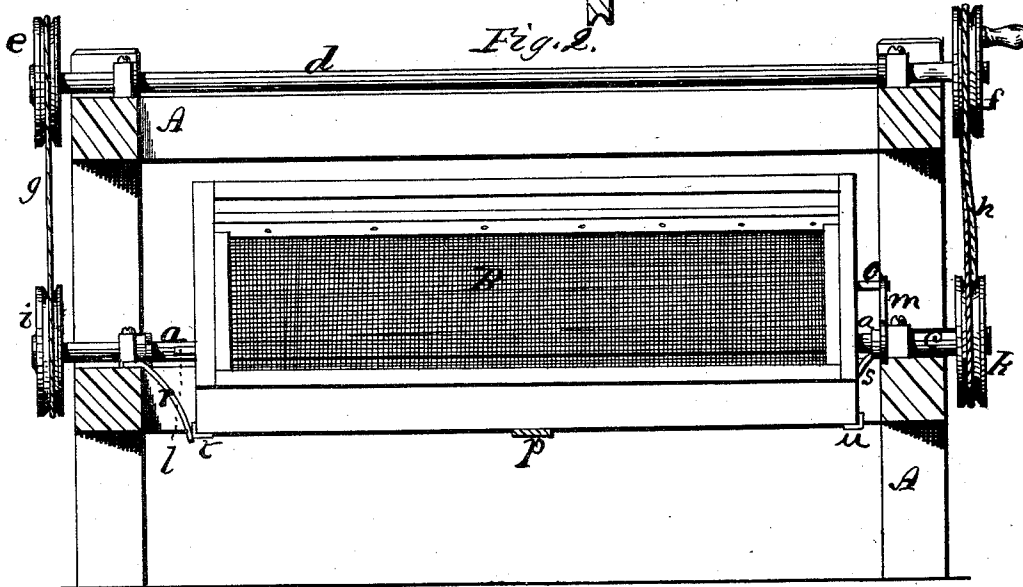
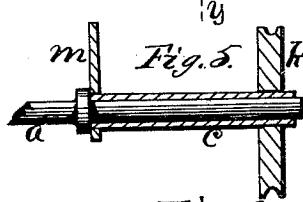
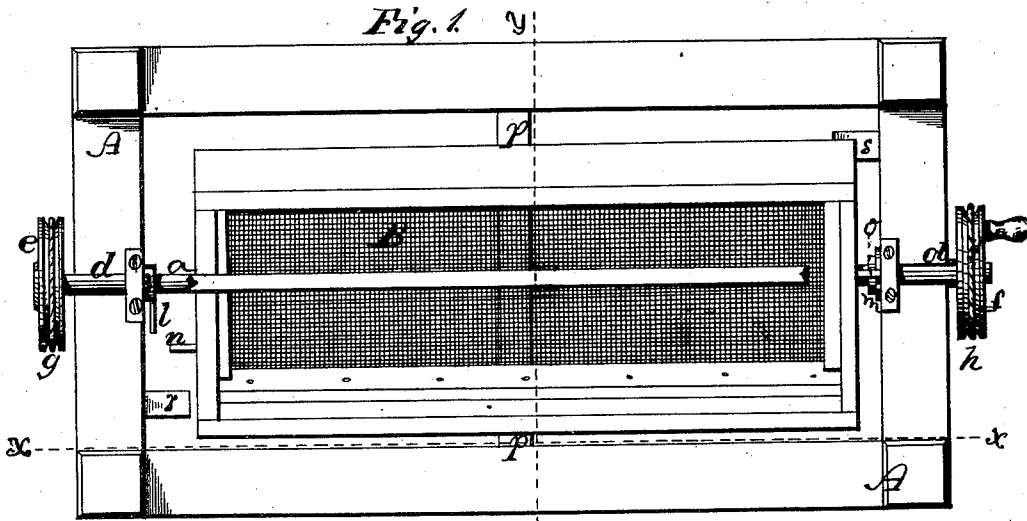


J. RIGBY.

Flour and Middlings Separators.

No. 156,063.

Patented Oct. 20, 1874.



Witnesses,
C. M. Gallaher.
C. Clarence Poole,

Inventor,
James Rigby,
By his atty,
J. S. Brown.

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Fig. 3.

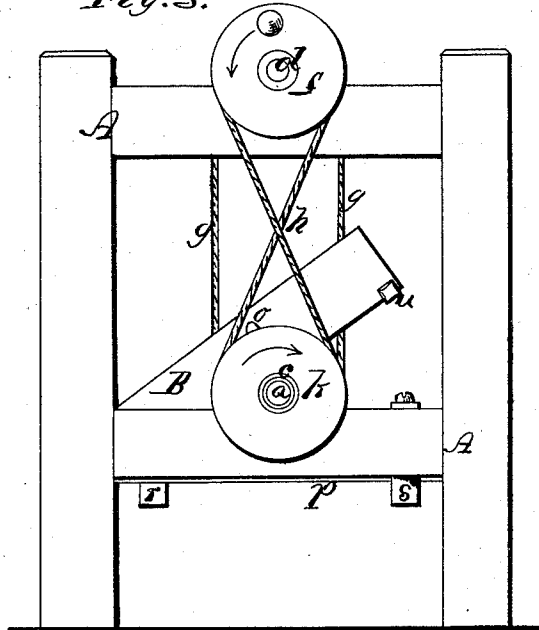
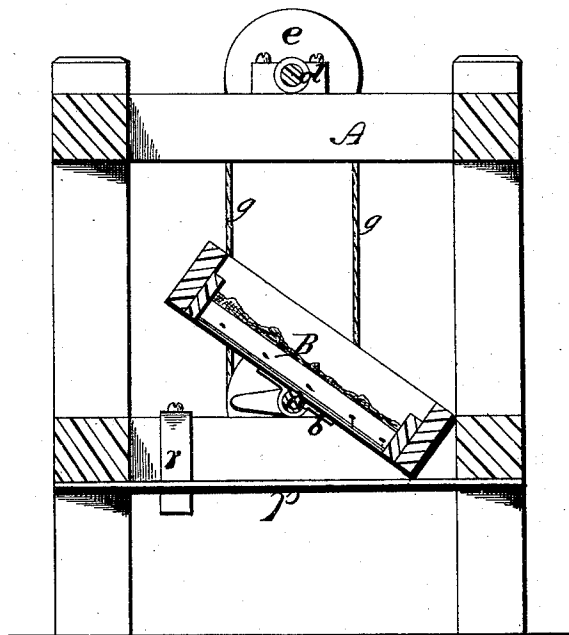


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES RIGBY, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT
TO V. A. FARR, OF SAME PLACE.

IMPROVEMENT IN FLOUR AND MIDLINGS SEPARATORS.

Specification forming part of Letters Patent No. **156,063**, dated October 20, 1874; application filed
June 23, 1874.

To all whom it may concern:

Be it known that I, JAMES RIGBY, of Springfield, in the county of Clarke and State of Ohio, have invented an Improvement in Flour and Middlings Separator; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a top view of the separator; Fig. 2, a longitudinal vertical section of the same in a plane indicated by the line *x x*, Fig. 1; Fig. 3, an end view thereof; Fig. 4, a transverse vertical section of the same in a plane indicated by the line *y y*, Fig. 1; Fig. 5, a section of a part detached.

Like letters designate corresponding parts in all of the figures.

The nature of my invention consists in a sieve, screen, or equivalent separator, to which peculiar motions are imparted, as hereinafter specified.

Let A represent the frame of the separator, of any suitable and desired construction; or, when the separator may be used in connection with other machinery, it is suitably arranged in the frame thereof. Let B represent the sieve, screen, or equivalent separator, which, in this specification, I shall designate by the single term "sieve." To this sieve I impart a compound motion, one upon a central axis or shaft oscillating through a quarter of a circle, or thereabout, the motion being quick and suddenly arrested by striking a suitable stop at the termination of each movement, the other motion being a longitudinal reciprocating motion through a short distance, made during the axial motions, or during a part of the same.

To effect these motions, I have devised substantially the following mechanism as a suitable and effective means: The sieve B has both its axial (or see-saw) and longitudinal reciprocating motions upon a horizontal rod or shaft, *a*, around which its bearings *b b* clasp. This shaft *a* has a continuous revolving motion in one direction, and at one end it turns in the tubular end of another short shaft, *c*,

which has an equal continuous revolving motion in the opposite direction. These two opposite motions may be produced from a single driving-shaft, *d*, having two driving-pulleys, *e f*, from which, respectively, two belts or bands, *g h*, pass to two other pulleys, *i k*, of equal size on the respective shafts *a c*. One band, *h*, is crossed, thus causing its shaft *c* to turn in the direction opposite to that of the shaft *a*. On the two shafts *a c* are, respectively secured two tappets, *l m*, which project in opposite directions radially, and alternately strike two respective pins, *n o*, projecting longitudinally from the ends of the sieve, substantially as shown. The sieve, as it is alternately tilted from side to side by these tappets, strikes with its lower side edges alternately upon a cross-bar, *p*, of the frame or an equivalent stop or stops, by which a sudden arrest and jarring of the sieve is produced. Simultaneously with this axial oscillating or see-saw motion (which may be used alone with good effect) the alternate or reciprocating longitudinal motion is produced by means of two stationary cams or inclined surfaces, *r s*, suitably shaped, and arranged in the frame, against which cams the two lower end edges of the sieve, or two wipers, *t u*, attached thereto, as shown, alternately strike and cause the sieve to move endwise during its axial motion. This longitudinal movement of the sieve releases alternately the pins or projections *n o* on the same from the tappets *l m* near the close of each tilting movement, and brings the opposite projection into position to be struck by its tappet, when the same again comes round into position therefor. These motions, communicated to the sieve, produce a very effective action in performing its functions.

Two or more sieves, similarly operated, may be situated in the same frame or machine, one above another, or otherwise arranged, as may be desired.

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

1. A sieve, B, arranged to oscillate axially and reciprocate longitudinally, substantially

in the manner and for the purpose herein specified.

2. Shafts *a c*, revolving in opposite directions, and provided with respective tappets *l m*, in combination with pins or projections *n o* on the sieve B, substantially as and for the purpose herein specified.

3. Stationary cams *r s*, in combination with the axially oscillating sieve B, substantially as and for the purpose specified.

JAMES RIGBY.

Witnesses:

V. A. FARR,
WM. H. WILLIS.