

(No Model.)

M. DORSEY & M. L. MOWRER.
Middlings Purifier.

No. 240,163.

Patented April 12, 1881.

Fig. 1.

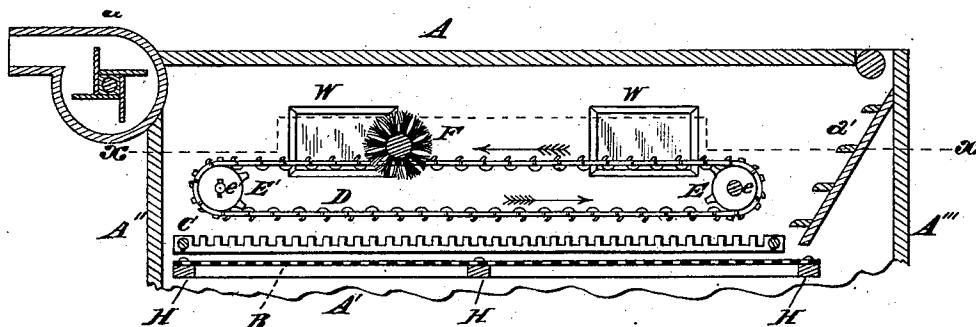


Fig. 2.

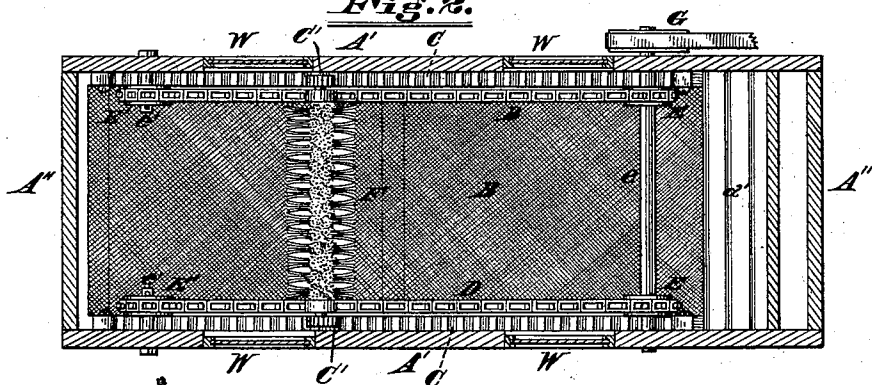


Fig. 3.

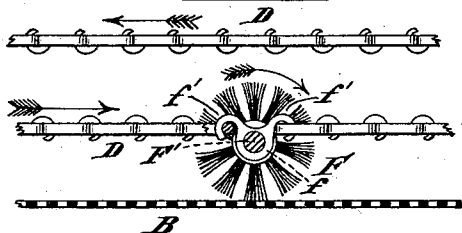
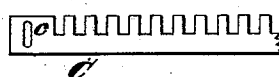


Fig. 4.



Attest

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UNITED STATES PATENT OFFICE.

MARCELLUS DORSEY, OF CINCINNATI, AND MARTIN L. MOWRER, OF DAYTON, OHIO.

MIDDLINGS-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 240,163, dated April 12, 1881.

Application filed October 5, 1880. (No model.)

To all whom it may concern:

Be it known that we, MARCELLUS DORSEY, of Cincinnati, in the county of Hamilton and State of Ohio, and MARTIN L. MOWRER, of Dayton, in the county of Montgomery and State of Ohio, both citizens of the United States, have invented certain new and useful Improvements in Flour-Separators and Middlings-Purifiers, of which the following is a specification.

10 This invention relates to that class of middlings-purifiers in which the brushes are secured upon rotary shafts and caused to travel along the screens, the said shafts being journaled on endless chain and caused to rotate during their progressive movement.

15 Our invention consists of a novel construction, arrangement, and combination of devices, which are fully illustrated in the accompanying drawings, in which—

20 Figure 1 is a longitudinal section of the upper part of a middlings-purifier broken off on a line immediately below the top screen. Fig. 2 is a sectional plan view on line *xx*, Fig. 1. Fig. 3 is an elevation of sections of the endless carrier, showing the manner of attaching the brush, it being in position upon the screen. Fig. 4 is an elevation of one end of the rack, showing one of its adjusting-slots.

25 *A A' A'' A'''* represent the frame of the machine.

B represents the screen.

D represents ordinary endless sprocket-chains working on sprocket-wheels *E E'*, which are mounted on shafts *e e'*.

35 *F* represents a cylindrical brush, which is mounted on a shaft, *F'*, the ends of which are journaled in bracket-bearings *f*, which are made with hooks *f'* and engage in the links of the chain, as shown in Fig. 3.

40 *G* represents the driving-pulley, which revolves the sprocket-wheels *E* and propels chains *D*, which carries the revolving brush *F* progressively forward over the top of the screen *B*, thence around the sprocket-wheels *E'*, as shown in Fig. 1, back upon the screen *B*, and so on continuously.

45 *C* represents rack-bars attached to the sides *A'* of the frame vertically above the plane of the screen *B*.

C' represents pinions mounted on the ends of shaft *F'*, which pinions engage with the rack-bars *C*, and revolve the brush *F* continuously in its progressive movement over the screen *B*.

The brush *F* should be adjusted so that the bristles will lightly brush the top of the screen. In order to regulate the pressure of the bristles, and to compensate for their wear, the racks *C* are made adjustable by means of slots *c*, as shown in Fig. 4. This mode of mounting and moving the brush has several advantages: first, the revolving of the brush cleans the fluff in a better manner than could be accomplished by a non-rotating brush having a progressive movement only; second, the operating of the brush on the top of the screen serves to spread the middlings evenly over the surface of the screen, and prevents the bunching of the material; third, the revolving of the brush upon the top of the screen agitates the fluffy material and throws it up to the action of the air-blast, which rapidly carries off the lighter material and speeds the operation of purifying. An additional advantage arises in having the brush operate on top of the screen instead of on the under side.

75 The different numbers of cloth may be attached to independent sash-frames *H*, whereas when the brush works on the under side of the screen the surface has to be continuous and smooth upon both sides. To accomplish this the different numbers of cloth must be sewed together to form a continuous piece and attached to the shoes outside of the travel of the brush, whereas by our method the different numbers of cloth are attached to independent frames, each of which can be readily removed, for renewal or substitution, at the pleasure of the operator, without disturbing the other numbers. Our invention may be used upon reciprocating bolts for the separation of flour and meal as well as middlings. The brush *F* may be made having a series of floats of elastic material other than bristles and accomplish the same end.

We claim—

95 1. In a middlings purifier or separator, the combination, with a horizontal screen or sieve, of the rotating traveling brush, arranged upon

an endless belt or chain within the air-blast chamber, and traveling progressively over the top of the screen, for throwing up the material to the action of the air-blast, in the manner substantially as described.

2. In a middlings-purifier, the combination, with a horizontal sieve or screen, of the vertically-adjustable rack-bars C, arranged above and parallel to the sieve or screen, the vertically-adjustable sprocket-wheels E, arranged above the rack-bars, the endless chains D, provided with journal bearings, and the transverse rotary brush-shafts, having end pinions engaging the rack-bars, all substantially as described, whereby the rotary brushes are caused to travel on the upper surface of the sieve or screen, and the racks and brushes are capable of adjustment with respect to the same, as and for the purpose set forth.

3. The combination, with a horizontal sieve or screen, B, of the rack-bars C, arranged above and parallel to the sieve or screen, and provided at their ends with slots e, through which pass adjusting-bolts, the vertically-adjustable sprocket-wheels E, the endless chains D, and the rotating brush-shafts journaled on the endless chains, substantially as shown and described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

MARCELLUS DORSEY.
MARTIN L. MOWRER.

Witnesses:

JNO. E. JONES,
J. H. CHAS. SMITH.