(No Model.)

# J. R. TAYLOR & P. LOCKWOOD.

## COMBINED DUST CATCHER AND SEPARATOR FOR MIDDLINGS PURIFIERS.

No. 325,713. Patented Sept. 8, 1885.

Fig. 1.

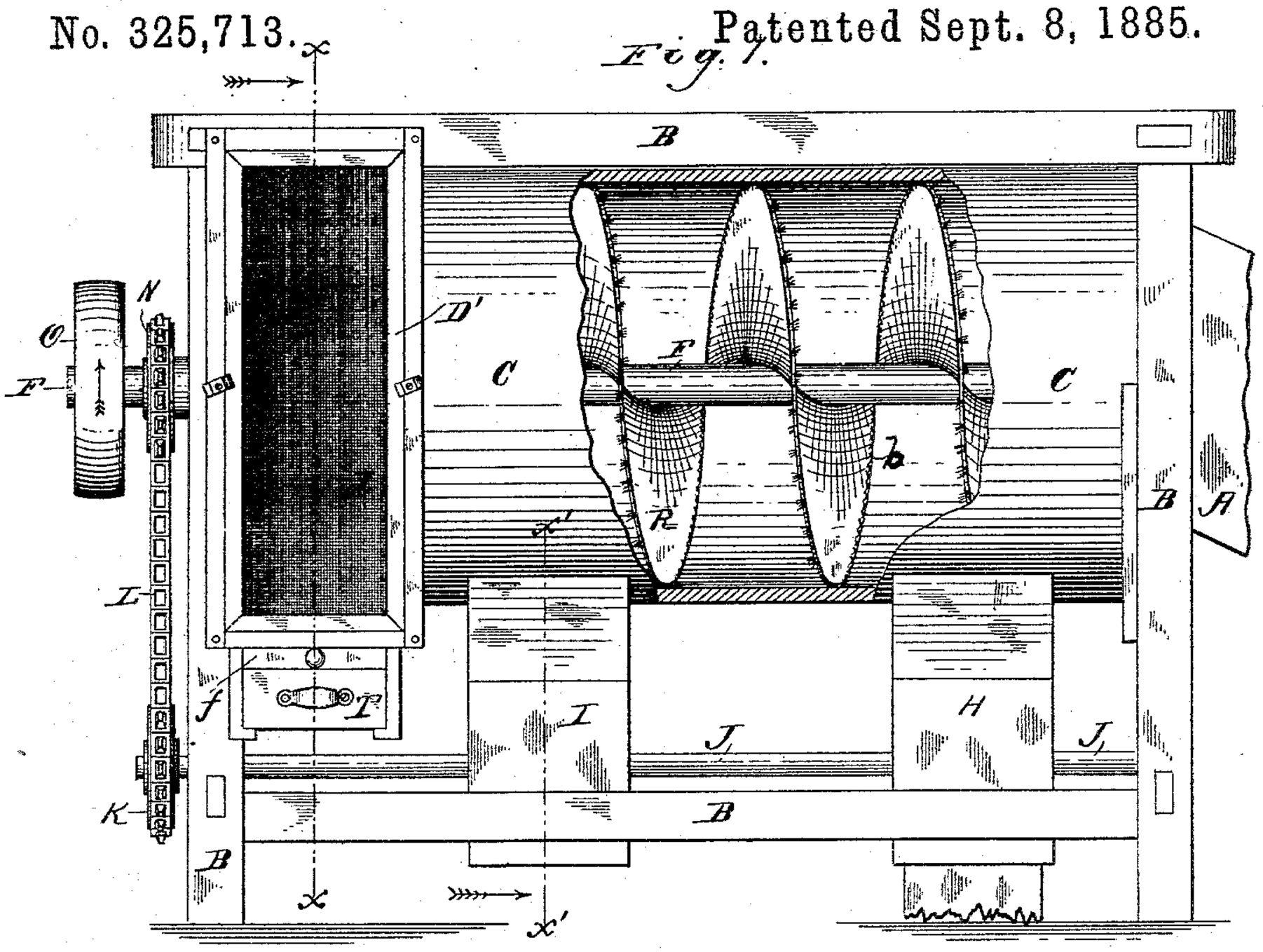



Fig. 2.

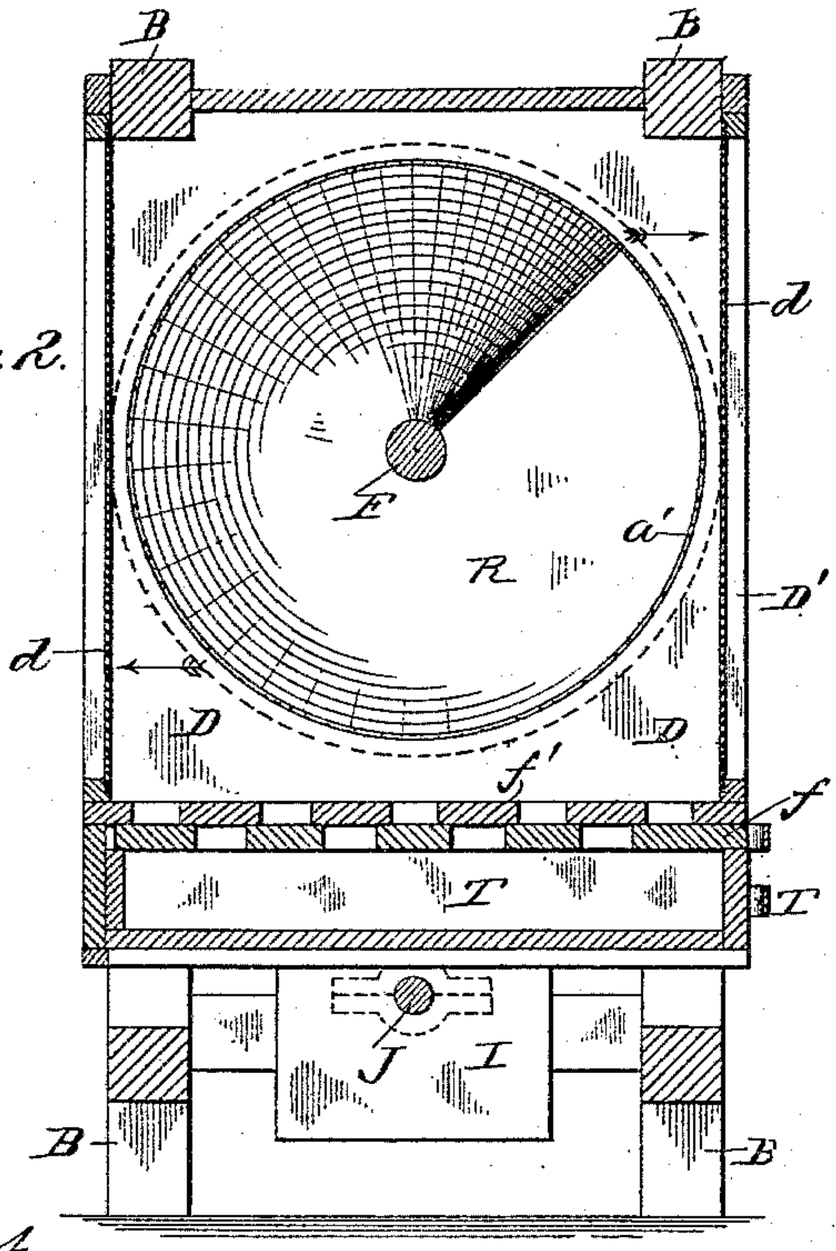



Fig. 4.

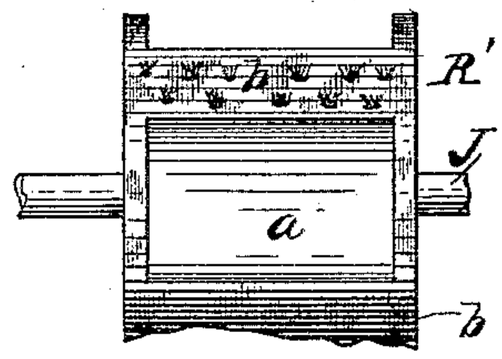
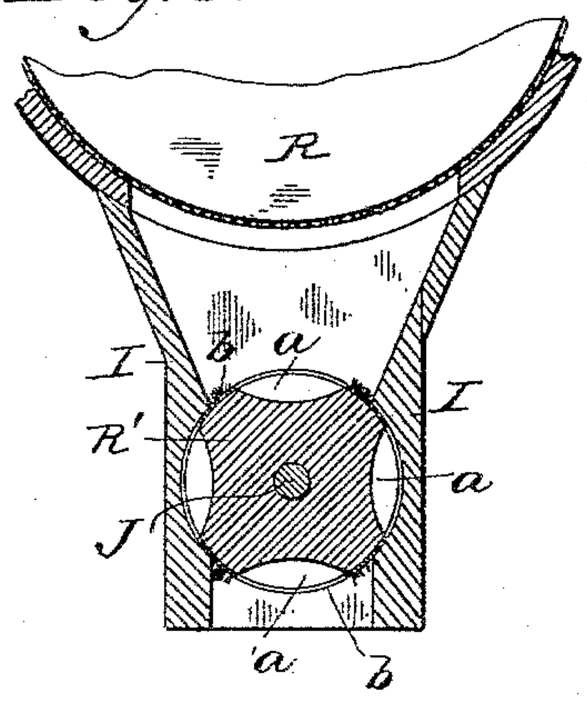



Fig. 3.




Witnesses.
Henry Faulkner.
Sam'l B. Dover.

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# UNITED STATES PATENT OFFICE.

JAMES R. TAYLOR AND PETER LOCKWOOD, OF MARSHALL, MICHIGAN.

## COMBINED DUST CATCHER AND SEPARATOR FOR MIDDLINGS-PURIFIERS.

SPECIFICATION forming part of Letters Patent No. 325,713, dated September 8, 1885.

Application filed December 4, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES R. TAYLOR and PETER LOCKWOOD, both of the city of Marshall, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Combined Dust Catchers and Separators for Middlings-Purifiers; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention has for its object to provide new and useful improvements in combined dust catchers and separators for middlings-purifiers; and the novelty thereof consists, essentially, in the details of construction and general arrangement of parts, as will be hereinafter fully described, and specifically designated in the claims.

Figure 1 is an upright side view of our invention, parts of the cylinder being broken away. Fig. 2 is a sectional view in the line *x x*. Fig. 3 is a sectional view of the discharge-spouts in the line *x' x'*. Fig. 4 represents a top view of pocketed roller-valve.

Referring to the drawings, A is a section of an induction-trunk through which the flour and dust laden air are forced from the purifiers into a cylinder, C, closed at its forward end around said induction-trunk and opening into a dust-chamber, D, at its rear end, both being hung in and suitably attached to a rectangular frame, B. The end and two sides of the dust-chamber are lined with sheeting *d*, for the purpose of allowing the air forced through the cylinder C to escape, while retaining the dust, which, being lighter than the flour, is alone forced to the rear end of the machine. We provide the dust-chamber with a detachable door, D'.

H and I are rectangular discharge-spouts, fastened on the under side and near each end of said cylinder C. The conveyer R, keyed to the shaft F, extends from the dust-chamber D to about the center of the flour-spout H. The outer edge of said conveyer we lag with wool or other material for making a close joint with said cylinder C. The flour-spout H and dust-spout I are each provided with a roller-valve, R', keyed to the shaft J. The roller-valves we construct with four pockets, *a*, and lag their edges with wool *b*, as shown in Figs. 3 and 4, in such a manner as to prevent the flour or dust from being blown down the spout and into the air as the rollers revolve. The sprocket-chain L connects the two shafts, and O is the driving-wheel keyed to the rear end of the shaft F. In the bottom *f'* of the dust-chamber D we form rectangular openings to correspond with similar openings in the slide *f*, placed beneath and working in proper grooves, so that when it becomes necessary the accumulated dust may be removed into the sliding drawer T below by simply working the slide.

In the operation of our invention the conveyer is revolved at such rate of speed as to cause the greatest resistance to the free passage of air through the cylinder, the object being to separate the flour from the dust by carrying the flour forward against the draft of air from the middlings-purifier. The flour and dust in the air, as it is forced from the purifier through the induction-trunk and cylinder C, strike the smooth surface of the conveyer R. The flour particles, being heavier than the dust portions, are first retarded in their course and lodge on the conveyer and against the cylinder. As the conveyer revolves, the lagging on its outer edge brushes the flour off from the cylinder and conveys it forward and deposits it in the flour-spout H. As the roller-valve R' revolves, the flour is carried around and deposited in the spout leading to the bolt for rebolting. A small amount of dust lodges in the rear end of the cylinder and is conveyed forward in a similar manner to the discharge-spout I; but almost the entire portion of the separated dust passes along the conveyer spirally, and is caught in the dust-chamber and removed therefrom, as heretofore described.

By lengthening the machine and adding another discharge-spout, two grades of flour can be obtained; but we deem it advisable to make but the one separation.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The herein-described combined dust

catcher and separator for middlings-purifiers, comprising the cylinder C, discharge-spouts H and I, roller-valves R′ R′, shafts F and J, conveyer R, dust-chamber D, slide *f*, and drawer T, substantially as and for the purpose hereinbefore set forth.

2. The combination of the dust-chamber D, conveyer R, having lagging *b*, cylinder C, and discharge-spouts I and H, provided with roller-valves R′ R′, substantially as herein described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JAMES R. TAYLOR.
PETER LOCKWOOD.

Witnesses:
E. J. KIRBY,
OTTO L. JOHNSON.