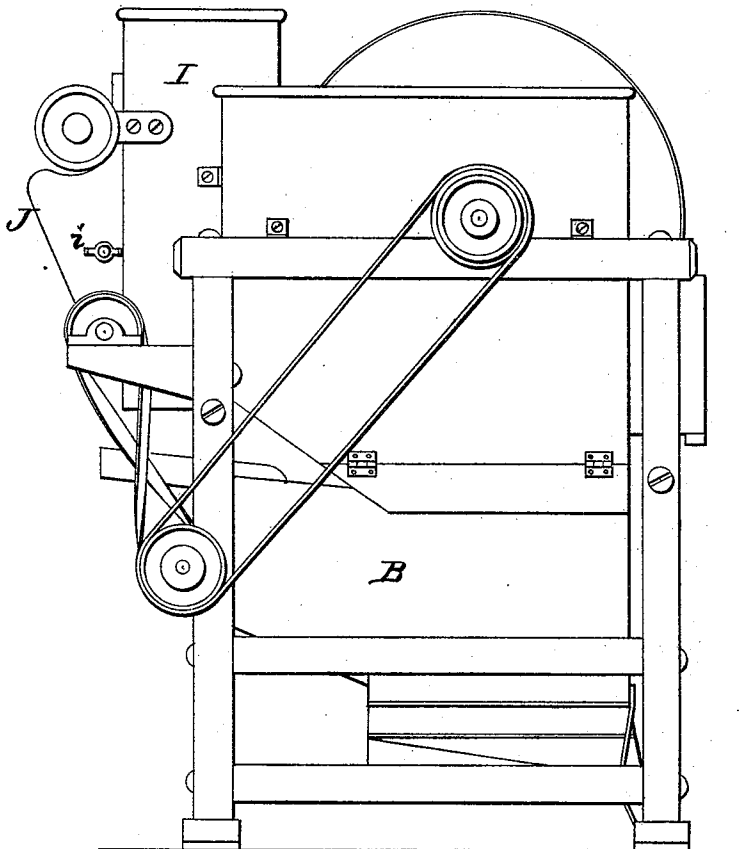


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GRAIN-SEPARATOR.

No. 179,254.

Patented June 27, 1876.

Fig 1



WITNESSES

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By

INVENTOR

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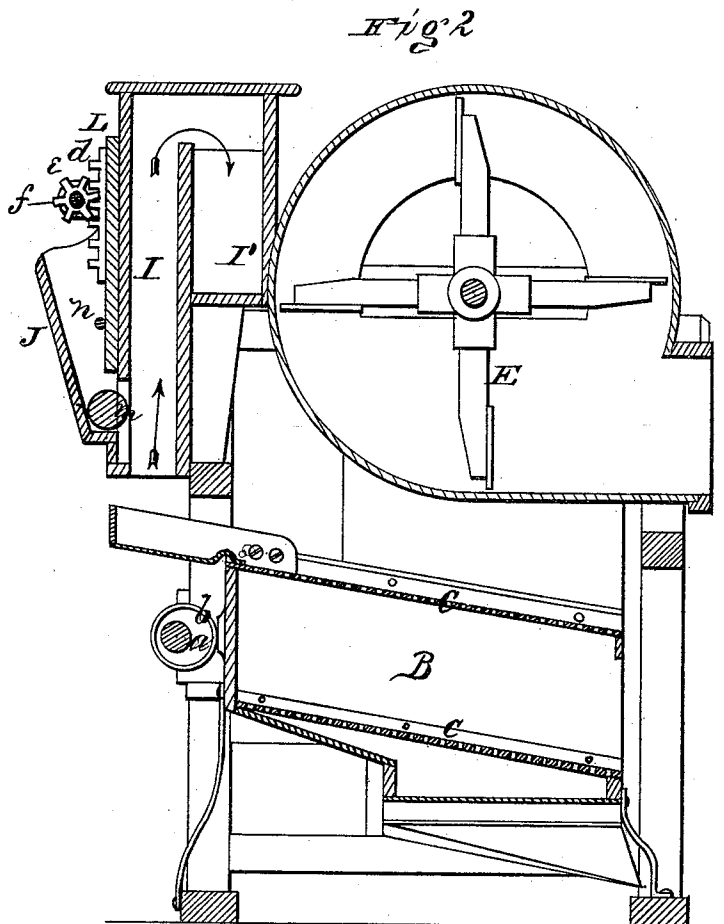
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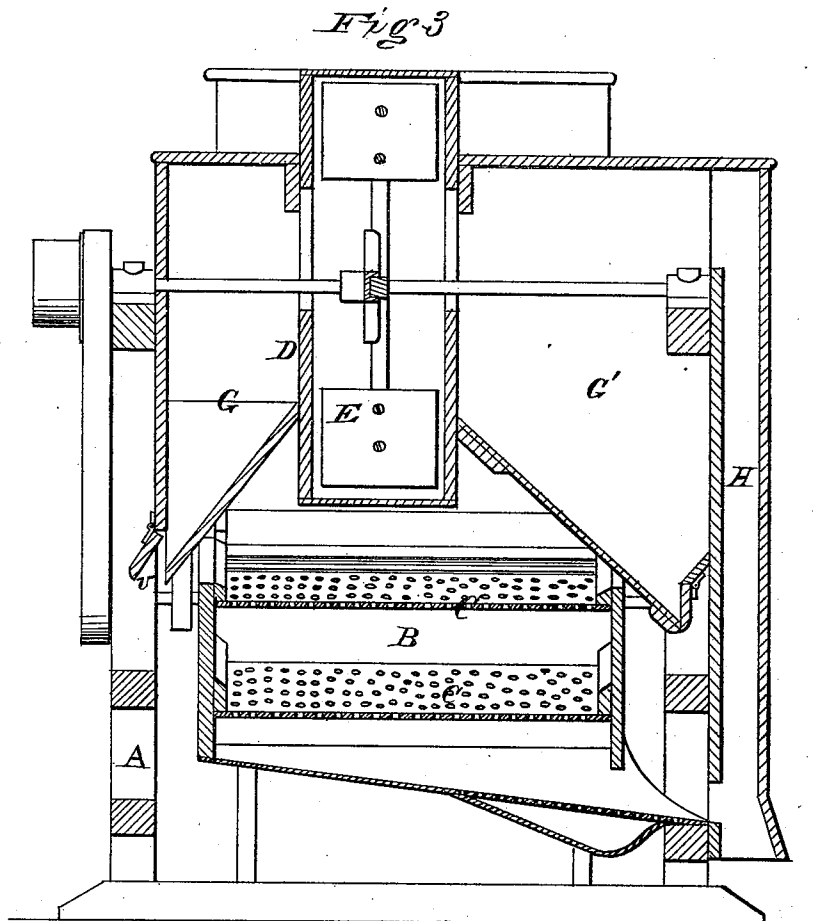
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UNITED STATES PATENT OFFICE.

HEMAN A. BARNARD, OF MOLINE, ILLINOIS, ASSIGNOR TO BARNARD AND LEAS MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **179,254**, dated June 27, 1876; application filed March 11, 1876.

To all whom it may concern:

Be it known that I, HEMAN A. BARNARD, of Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to grain-separators; and it consists in the construction and arrangement of the parts of the same, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a side elevation of a grain separator embodying my invention. Fig. 2 is a transverse vertical section, and Fig. 3 a longitudinal vertical section, of the same.

A represents the frame of the machine, in the bottom part of which is the shoe B, containing the screens C C, said shoe being operated by eccentrics *b* on a shaft, *a*. D is the fan-case, with fan E, and G' the screenings-chamber, on one side of the fan. H is the air-trunk, along the side of the screenings-chamber G', these parts being all constructed and arranged in any of the known and usual ways.

Above the upper screen, in the rear part of the machine, is formed a wide air-trunk, I, communicating, through a passage, I', with another screenings-chamber, G, on that side of the fan. On the rear side of the air-trunk I is formed the hopper J, of the same width as the air-trunk, and communicating therewith at the lower end.

The hopper J is provided with a perpendicular slide, L, operated by racks *d* and pinions *e* on a shaft, *f*, whereby the feed can be regulated so as to admit the grain in any desired

quantity, and always in a wide thin sheet. The slide L is held at any point desired by compressing the sides of the hopper by a rod, *h*, and thumb-nut *i* thereon.

Underneath the slide L is a rotating shaft, *m*, over which the grain passes into the air-trunk I. This shaft, by its rotation, feeds and spreads the grain so that it enters the air-trunk in a thin wide sheet, giving the air better chance to act on the grain, and separate all impurities therefrom.

The screenings are carried up through the air-trunk I and the passage I' into the chamber G, where they settle, while the lighter particles are carried out through the fan.

In the bottom of the chamber G is a self-closing valve, *v*, to retain the screenings until a sufficient quantity has accumulated, so that the weight thereof overcomes the pressure of air on the outside, when the valve opens and discharges the same. The valve immediately closes again, and prevents any air from passing up through the chamber.

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

The combination, with the shoe containing the screens C C, of the fan E, the two screenings-chambers G G', vertical air-trunks I H, connected by passages with the screenings-chambers, the hopper J, and slide L, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HEMAN A. BARNARD.

Witnesses:

ELSWORTH MAPES,
J. SILAS LEAS.