(No Model.)

J. W. WILSON.

BRAN DUSTER.

No. 302,077. Patented July 15, 1884.

Fig. 1.

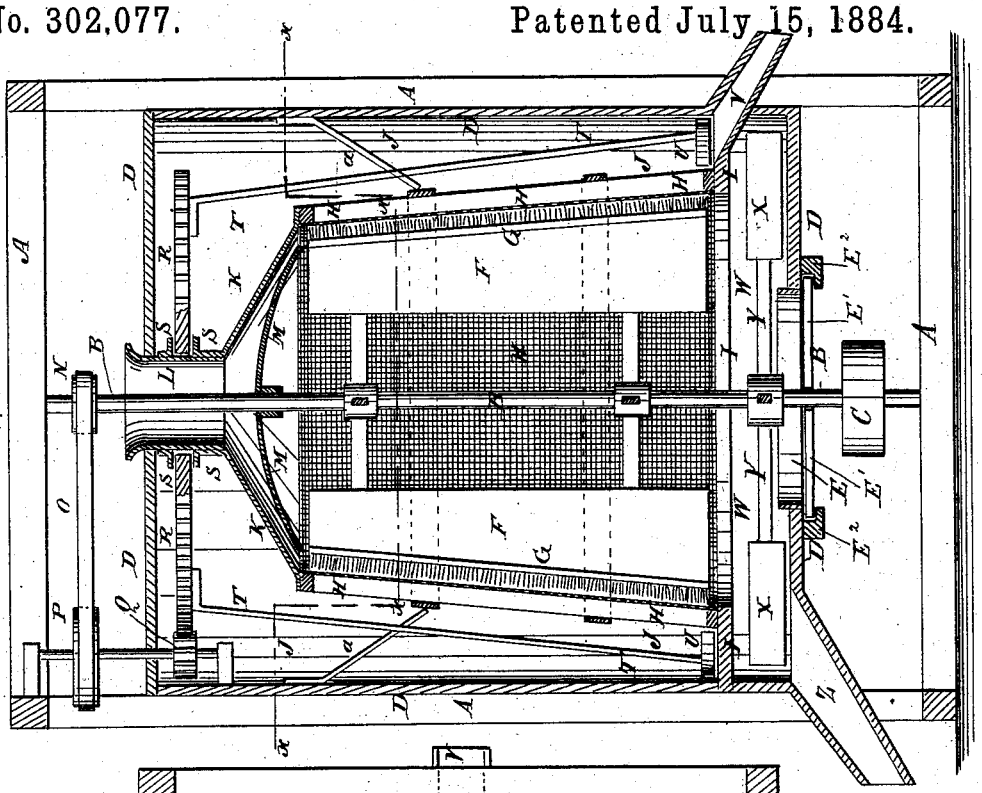
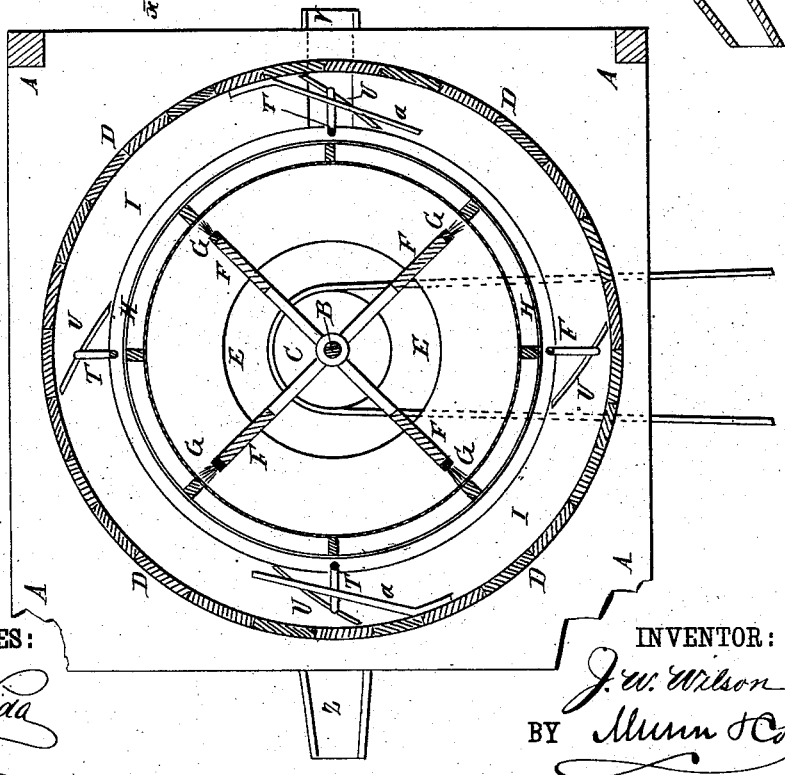


Fig. 2.



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JOSEPH W. WILSON, OF BROOKVILLE, KANSAS.

BRAN-DUSTER.

SPECIFICATION forming part of Letters Patent No. 302,077, dated July 15, 1884.

Application filed April 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. WILSON, of Brookville, in the county of Saline and State of Kansas, have invented certain new and useful Improvements in Bran-Dusters, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which the same letters of reference indicate the same or corresponding parts in both the figures.

Figure 1 is a sectional elevation of my improvement. Fig. 2 is a sectional plan view of the same, taken through the broken line *x x x x*, Fig. 1.

The object of this invention is to promote efficiency in the operation of bran-dusters.

The invention consists of the combinations of parts, substantially as hereinafter fully set forth, and pointed out in the claims.

A represents the frame of the machine, in bearings in the upper and lower parts of which revolves the shaft B.

To the lower part of the shaft B is attached a pulley, C, to receive a driving-belt from any convenient power.

To the frame A is attached a casing, D, through the middle part of the bottom of which, around the shaft B, is formed a large opening, E, through which a current of air is drawn by the fan F, attached to the shaft B. The outer edges of the wings of the fan F are inclined outward toward their lower ends, and to the said edges are attached brushes G, which, as the fan is revolved, sweep around the inner surface of the stationary upright bolt H, so as to rub the annular stream of bran passing through the machine against the cloth of the said bolt. The wings of the fan F should be attached adjustably to their arms, so that the brushes G can be adjusted closer to or farther from the bolt H, as may be required. The lower end of the bolt H is attached to the inner edge of an annular plate, I, the outer edge of which is attached to the casing D at a little distance above the bottom of the said casing. The annular plate I forms the bottom of the flour-chamber J. The upper end of bolt H is attached to the lower edge of a conical cover, K, in an aperture in the top of which is secured a tube, L. The tube L passes through and fits into an aperture in the top of the casing D, to serve as an inlet-spout to the bolt H and as a support to hold the upper end of the said bolt from lateral movement.

To the shaft B, a little below the cover K, is attached a convex plate, M, of a diameter a little less than that of the upper end of the bolt H. The plate M receives the bran from the tube L and delivers it in an annular stream around the inner surface of the upper end of the bolt H.

To the upper part of the shaft B is attached a pulley, N, around which passes a belt, O. The belt O also passes around a larger pulley, P, pivoted to supports attached to the frame A. The lower journal of the pulley P passes through the top of the casing D, and to it is attached a small gear-wheel, Q, the teeth of which mesh into the teeth of the large gear-wheel R. The gear-wheel R has a hole through its center to receive the tube L, upon which the said gear-wheel revolves. The gear-wheel R is kept in place by collars S, attached to the said tube L.

To the outer part of the lower side of the large gear-wheel R are attached the upper ends of one or more bars, T, which pass down through the flour-chamber J, and to their lower ends are attached scrapers U, which, as the gear-wheel R is revolved, sweep around the lower part of the bolt H and push the flour that has settled upon the annular plate I into the spout V, secured in an opening in the said plate I, and through which the said flour passes out of the machine. The bran falls through the open lower end of the bolt H into the bran-chamber W, whence it is pushed out by the scrapers X, the arms Y of which are attached to the shaft B. The bran passes out through an opening in the bottom of the casing D into a spout, Z, from which it falls into some suitable receiver.

To the casing D are attached elastic knockers *a*, which extend downward and inward, so that their lower ends will come in contact with the frame of the bolt H. The knockers *a* thus cross the paths of the sweeps T, and as

each sweep comes in contact with them they are pushed back, and as they escape from the said sweeps they are thrown by their own elasticity against the frame of the bolt H and jar the said bolt, so as to keep the meshes of the bolt-cloth clear.

The volume of air entering through the opening E is to be regulated by a slide, E′, placed in rabbeted cleats E^2, attached to the bottom of the casing D, as shown in Fig. 1.

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

1. In a bran-duster, the combination, with the cover K, the tube L, and bolt H, of the inner curved plate, M, and the fan F, carrying brushes G, the latter moving in a space forming a continuation of that between the cover and the plate, substantially as and for the purpose set forth.

2. In a bran-duster, the combination, with the cover K, the tube L, and the bolt H, of the inner curved plate, M, of less diameter than the cover, the fan with its blades carrying brushes G, the casing D, and the annular bottom plate, I, having the spout V, substantially as and for the purpose set forth.

3. In a bran-duster, the combination, with the shaft B, the casing D, the annular plate I, having discharge-spout V, the bolt H, and the inlet-tube L, of the pulleys and belt N P O, the gear-wheels Q R, the sweeps T, and the scrapers U, substantially as herein shown and described, whereby the flour is removed from the flour-chamber, as set forth.

4. In a bran-duster, the combination, with the sweeps T, of the elastic knockers *a*, disposed in the plane of the movement of the sweeps, whereby, upon the release of the knockers from the sweeps, said knockers will act upon and jar the bolt, substantially as set forth.

5. In a bran-duster, the combination, with the shaft B, the casing D, the annular bottom plate, I, having discharge-spout V, and the bolt H, of the sweeps T, carrying scrapers U, and driving mechanism, said sweeps depending from a gear-wheel of said mechanism, substantially as and for the purpose set forth.

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Witnesses:
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