(No Model.)

W. G. THOMPSON.

FEED REGULATOR.

No. 300,816. Patented June 24, 1884.

Fig. 1.

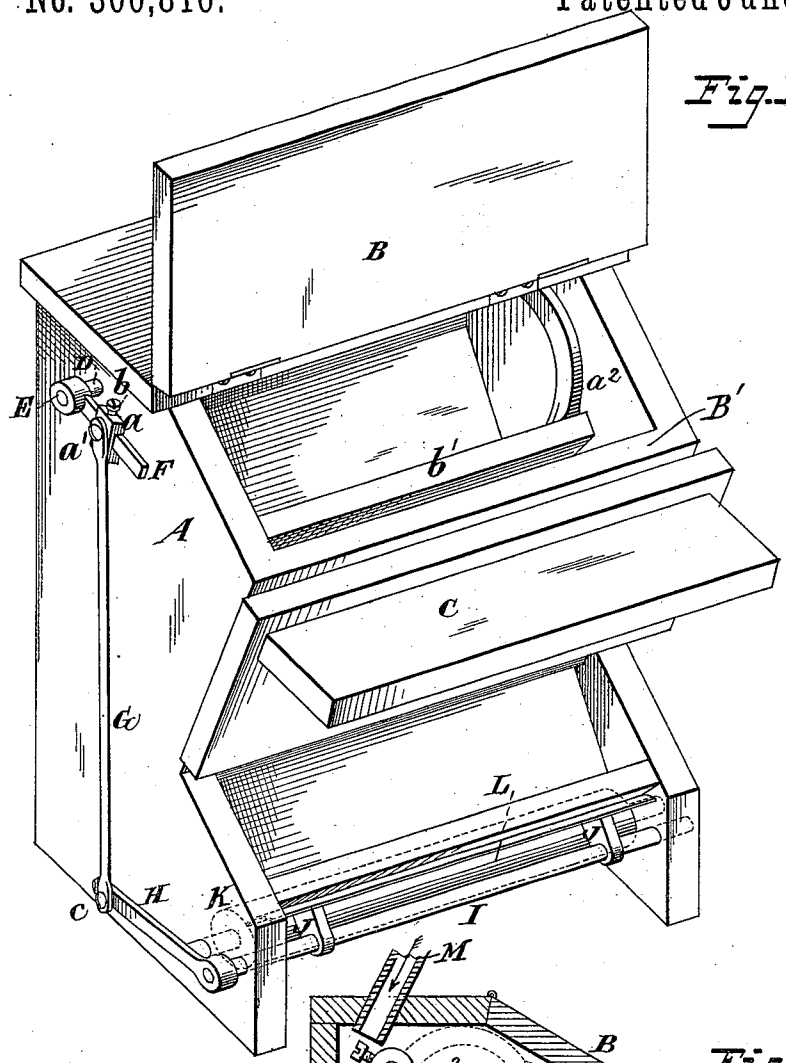
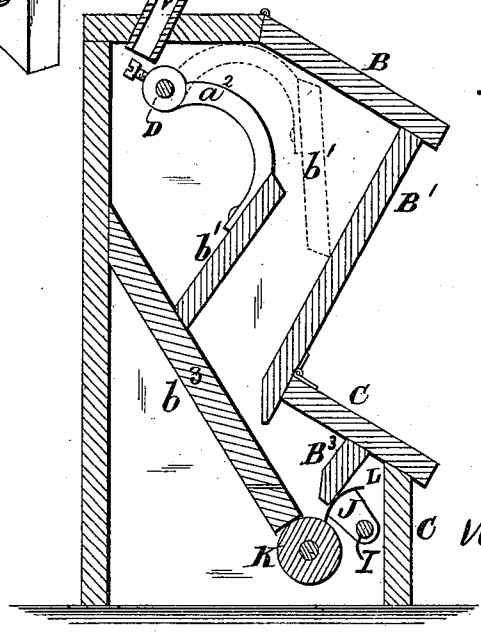


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM G. THOMPSON, OF WABASH, INDIANA.

FEED-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 300,816, dated June 24, 1884.

Application filed April 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. THOMPSON, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Feed-Regulators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to feed-regulating devices; and it consists in certain improvements in the construction of the same, the object being to evenly feed a desired quantity of grain or stock material to stones or between rollers, automatically, by the weight or pressure of the grain. I attain this object by means of the peculiar construction and combination of the parts of my device, as will be more fully set forth and pointed out in the specification and claims.

In the accompanying drawings, Figure 1 is a perspective view of my invention, showing the grain-receptacle, valves, shafts, and connections. Fig. 2 is a vertical section showing the interior parts of the device.

A designates an angular box or receptacle for grain or stock material, said receptacle being provided with hinged covers B and C, which are formed to fit the inclined edges of the front face of said receptacle. The upper portion of box A is provided with a shaft, D, journaled in the sides thereof and has attached curved arms a^2, said arms being held to the shaft D by set-screws, which permit of adjustment. The lower ends of arms a^2 are secured to a valve or cut-off, b', that hangs against or toward the inclined back b^3. Between the inner face of this valve and back b^3 the grain is held until a sufficient amount has accumulated to force the valve back away from the back b^3. A chute or leading-pipe, M, conveys the grain onto the back b^3 above the valve b'. One end of shaft D extends outward some distance from the side of box A. Said end has rigidly secured to it a disk, E, which is provided with an arm, F, on which is loosely secured a slide, a, that has an outside projecting pivot-pin, a', and the upper side of the same is perforated to receive a set-screw, b, by which said slide is held in place on arm F. A connecting-rod, G, is perforated at one end to receive a pivot-pin, a', and the opposite end is, in like manner, perforated to receive pivot-pin c, formed on the outer end of arm H. The inner portion of arm H is rigidly secured to shaft I, which is journaled in the lower front side of box A. Between the sides of said box, two brackets, J, are secured by their inner ends to shaft I, and their outer ends are secured to a curved feed-gate, L, that controls the amount of grain delivered to the grinding rolls or stones revolving beneath. The lower face of feed-gate L is formed to fit close against the roller K, which is journaled at the base of the inclined back b^3. An inclined stop-board, B^3, is secured by its ends to the lower inner faces of box A, with its lower edge a short distance above the roller K. Another inclined stop-board, B′, is secured in like manner a short distance above board B^3, and the cover C is hinged to the outer face of the same.

The operation is as follows: Grain or other material is let into the upper part of the receptacle A above valve b' and against the inclined face of back b^3, the slide on arm F being adjusted to regulate the amount of feed desired to deliver to gate L. When sufficient grain has accumulated on valve b' to push it back and open it, the grain or other material will fall through said opening and pass down onto roller K, which revolves toward the feed-gate, carrying the grain between the under face of said gate and said roller to the grinding stones or rolls. When the valve b' moves away from back b^3 by means of shaft D, arm F, rod G, arm H, and shaft I, the feed-gate is opened, or its lower edge is moved away from the face of roller K, thus permitting the grain to pass between the roller K and said feed-gate. An inlet-spout, M, is inserted through the top of box A, through which grain is brought from above, as shown in Fig. 2.

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

1. In a feed-regulator for grinding-mills, the combination of an angular box having inclined surfaces, a shaft horizontally journaled in the upper portion of said box, an inclined valve secured to said shaft, an arm secured to the outer end of said shaft, a secondary shaft carrying a curved feed-gate and horizontally

journaled in the lower front part of said box, a feed-roller working against the inner edge of said feed-gate, an arm secured to the outer end of said lower shaft, and means for connecting the arms on said shafts, substantially as and for the purpose set forth.

2. In a feed-regulator, the receptacle A, having covers B and C and the inclined stop-boards B′ and B^3, the shaft D, journaled as described, and provided with arm F, the angular slide *a*, having pivot-pin *a′* and set-screw *b*, the connecting-rod G, the arm H, shaft I, and curved gate L, in combination with the inclined valve *b′*, curved arms a^2, the inclined back b^3, and inlet-spout M, all arranged and operated substantially as shown and specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM G. THOMPSON.

Witnesses:

DAVID THOMPSON,

ARTHUR H. BURRELL.