

No. 687,732.

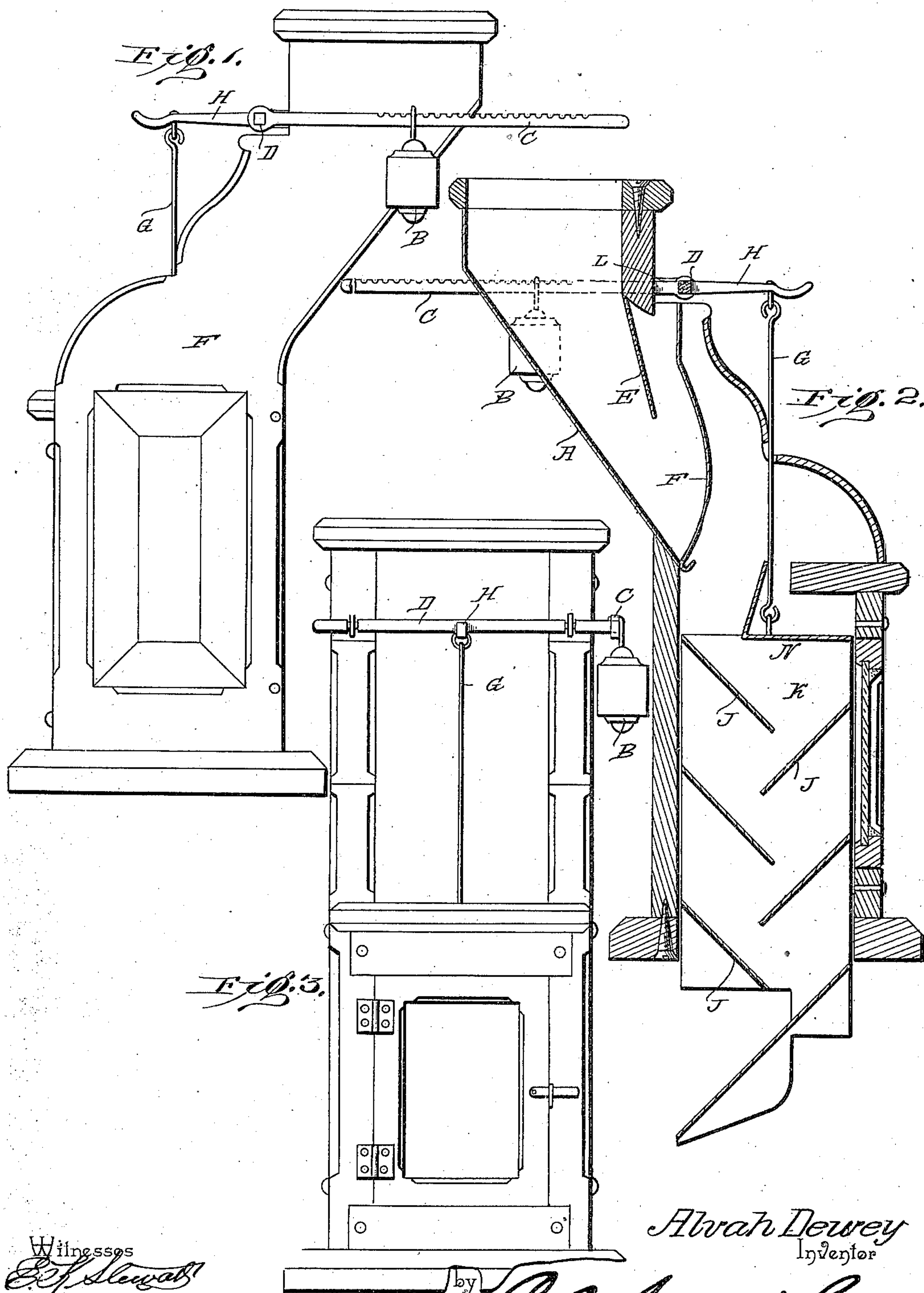
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A. DEWEY.

AUTOMATIC FEED REGULATOR FOR FLOUR MILLS.

(Application filed Mar. 6, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

ALVAH DEWEY, OF MARION, KENTUCKY.

AUTOMATIC FEED-REGULATOR FOR FLOUR-MILLS.

SPECIFICATION forming part of Letters Patent No. 687,732, dated December 3, 1901.

Application filed March 6, 1901. Serial No. 50,139. (No model.)

To all whom it may concern:

Be it known that I, ALVAH DEWEY, a citizen of the United States, residing at Marion, in the county of Crittendon and State of Kentucky, have invented a new and useful First-Roll Automatic Feed-Regulator, of which the following is a specification.

My invention relates to the regular feed of wheat automatically into the first roll, arranged so that any amount from fifteen bushels per hour to the required capacity of any mill may be fed. I attain this result by the mechanism illustrated in the accompanying drawings.

Figure 1 is a side elevation of a feed-regulator embodying my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a side elevation of the same at right angles to Fig. 1.

In a casing F, which may be of any suitable construction, is disposed a vertically-movable distributor K, in which are a series of oppositely-inclined diaphragms J, disposed one above another and each adapted to discharge material onto the next lower diaphragm in series, whereby the material in passing downwardly through the distributor is spread out thereby and evenly. From the lowermost of the diaphragms the wheat is fed directly to the grinding-rolls, which are not here shown, as the same constitute no part of my present improvements. At the top N of the distributor K is a deflector J. This distributor, while spreading out the material that passes through it, is of such construction that the flow of material there-through is continuous, although it may vary in quantity. At the upper side of the casing is a feed-hopper, the inclined bottom plate A of which discharges into the upper end of the distributor. Opposite the inclined bottom plate A is a wall or deflector-plate E, which extends downwardly toward the plate A and to within a suitable distance therefrom, a feed-opening being thereby formed between said plates A E. Below and opposite this feed-opening is disposed a feed-regulating valve F, which is a plate that at its lower end is adapted to close against and open from the bottom plate A. The upper side of this valve is attached to a rock-shaft D, that is journaled in suitable bearings L,

with which the feed-hopper is provided. A scale-beam C is attached to said rock-shaft, and from the said scale-beam is suspended a weight B, which may be adjusted in or out thereon. An arm H projects from said rock-shaft. The distributor K is suspended from said arm by a rod G. Said distributor is counterbalanced by the scale-beam and the weight thereon, said scale-beam and weight serving to normally raise the distributor and open the valve F to permit wheat to be fed from the hopper through the distributor to the grinding-rolls, and it will be understood that by adjusting the weight on the scale-beam the quantity of wheat fed through the machine can be readily regulated. When an excess of wheat is fed to the distributor, the additional weight causes said distributor to descend and the valve F to close, and when the quantity diminishes the distributor rises and the valve F opens to a corresponding extent. Hence the action of my improved feed-regulator is automatic, and the same is efficient in feeding the wheat in the requisite quantities to the grinding-rolls.

The valve F, while adapted to control the quantity of material fed from the hopper, does not entirely cut off the flow of material at any time and being connected to and operated by the counterbalancing element that suspends and sustains the distributor that retards without stopping the flow of material discharged by said valve, the apparatus is rendered very sensitive and by appropriately disposing the weight on the scale-beam may be adjusted to feed grain to the grinding-rolls in the quantity desired.

Having thus described my invention, I claim—

1. In a feed-regulator of the class described, the combination of a vertically-movable distributor having distributing oppositely-inclined diaphragms, for the purpose set forth, a counterbalancing element from which said distributor is suspended, said counterbalancing element having an adjustable weight, a feed-hopper to discharge onto said distributor and a regulating-valve in the throat of said hopper, said valve being connected to and operated by said counterbalancing element, substantially as described.

2. In a feed-regulator of the class described,

the combination of a feed-hopper, a rock-shaft, and regulating-valve in the throat of the hopper and attached to said rock-shaft, the latter having a scale-beam and an arm, 5 an adjustable weight on said scale-beam, and a vertically-movable distributor, onto which said feed-hopper discharges, said distributor being suspended from said arm of said rock-shaft and counterbalanced by said weighted 10 scale-beam, substantially as described.

3. In a feed-regulator of the class described, the combination of a feed element, a counterbalancing element, a regulating-valve, for

said feed element, said valve being operated by said counterbalancing element, and a distributor, onto which said feed element discharges, said distributor being supported by said counterbalancing element, substantially as described. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 20

ALVAH DEWEY.

Witnesses:

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