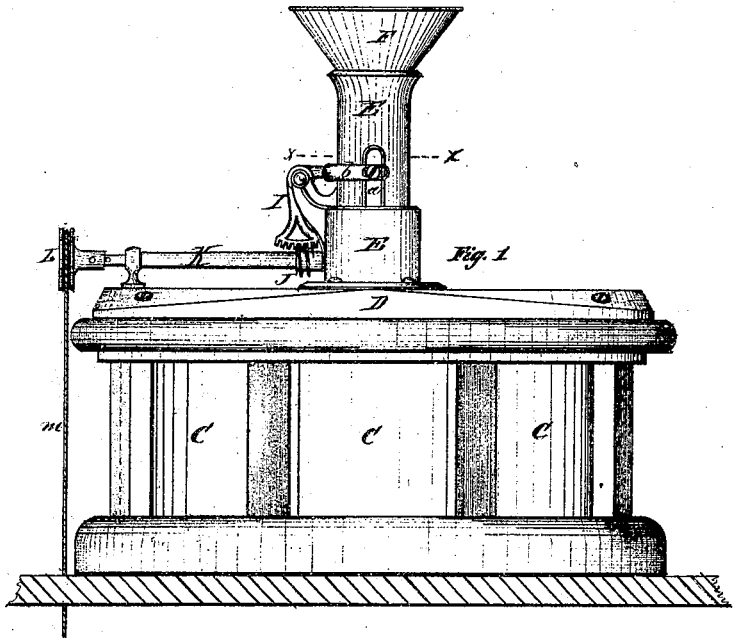
W. T. Duvall,

Feed Regulator.

NO. 112,909. Patented Mar. 21. 1871.



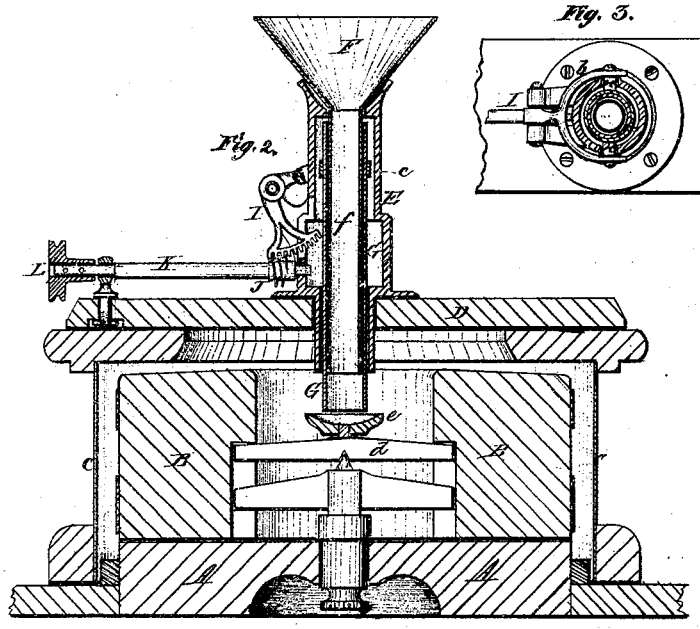


Fig. 3.

Witnesses.

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WILLIAM T. DUVALL, OF GEORGETOWN, DISTRICT OF COLUMBIA.

Letters Patent No. 112,909, dated March 21, 1871.

IMPROVEMENT IN ADJUSTABLE MILL-FEEDS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM T. DUVALL, of the city of Georgetown, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in "Adjustable Mill-Feeds;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing through letters of reference marked thereon forming part of this specification, and in which—

Figure 1 represents a side elevation of a mill with my adjustable feed applied;

Figure 2 is a central vertical section of the same; and

Figure 3, a horizontal section, taken on the line *x x* on fig. 1.

The same letters indicate corresponding parts in all the figures.

In mill-feeds as ordinarily constructed great difficulty is experienced in effecting an adjustment as accurate as desirable, and even when so adjusted it is constantly liable to variation from the jar produced by the rapid motion of the running stone.

To remedy this difficulty is the object of my invention, which consists in various details of construction, which will be more fully described by reference to the drawing, in which—

A represents the nether or stationary bur; and

B, the runner or upper stone.

C is the casing which surrounds both, all of which may be constructed, supported, and operated in any ordinary or convenient manner.

Across the top of the casing C is rigidly attached a bridge-piece, D, to which is centrally secured a hollow or tubular metallic frame, E, which serves to support the adjustable feed devices.

This frame E is constructed with two slots, *a*, on opposite sides, and one at right angles to them somewhat lower down, for purposes which will be hereinafter more fully described. It is also of a slightly-flaring shape at its upper end, and of a somewhat contracted cylindrical form at its lower portion.

Within this cylindrical frame E is a sliding tube, G, which extends from near the upper end of the said frame downward, snugly but freely passing through the contracted lower portion of said frame to near the upper edge of the cup or dish *e*, which is supported on the carrier *d*, and is rotated with it and the running stone B.

The tube G is suspended by a collar, *c*, which has two wrist-pins, *n*, extending horizontally through the slots *a* in the opposite sides of the frame E, and by which it is connected with the forked arm *b* of the elbow-lever I, which gears, by a sector at its lower end, with a worm-wheel, J, on the horizontal shaft K, by the rotation of which the tube G is raised or lowered, and its proximity to the cup *e* may be nicely adjusted to regulate the discharge or feed of grain to the mill by the centrifugal action of the revolving cup *e*.

The collar *c* is secured to the tube G by set-screws passing through the wrists *n* and biting against the periphery of said tube, by loosing which its position on the latter may be varied and adjusted.

Within this adjustable tube G is inserted the tubular portion *f* of the funnel F, which is fitted to extend nearly as low as the tube G, and so as to be readily inserted or removed therefrom.

On the outer end of the shaft K is a mill-head, L, which is also grooved around its periphery, so as to serve as a pulley for operation by a cord, *m*, extending to a room below, as represented in fig. 1. Said mill-head is also made adjustable toward and from the axis of the mill, so that, when it is desirable to operate the feed on the same floor on which the runner is placed, it may be slipped within the periphery of the casing C, as represented in fig. 2, in which position, when it is desirable to remove the casing, it and the entire feed apparatus may be lifted off together and rolled over the floor without varying the adjustment of any of its parts.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the vertically-adjustable tube G, with its toothed segmental lever I, and the revolving cup *e*, for regulating the feed, constructed for operation substantially as described.

2. The combination of the adjustable collar *c*, having wrist-pins *n* and set-screws, with the elbow-lever I, its sector, and the worm-wheel J, for adjusting the tube G, substantially as set forth.

3. The mill-head or pulley L, adjustably arranged to operate the feeder G from above, or by means of a cord, *m*, from below, as shown and described.

4. The frame E, constructed as shown and described, and rigidly attached to the bridge-piece D, for supporting the adjustable feed devices, in combination with the case C, substantially as set forth.

5. The combination of the tubular frame E, adjustable feed-tube G, its adjustable collar *c*, segmental elbow-lever I, and worm-wheel J, all arranged for operation substantially as shown and described.

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Witnesses:

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