J. M. ROSS.

Feed-Regulator.

No. 161,553. Patented March 30, 1875.

Fig. 1.

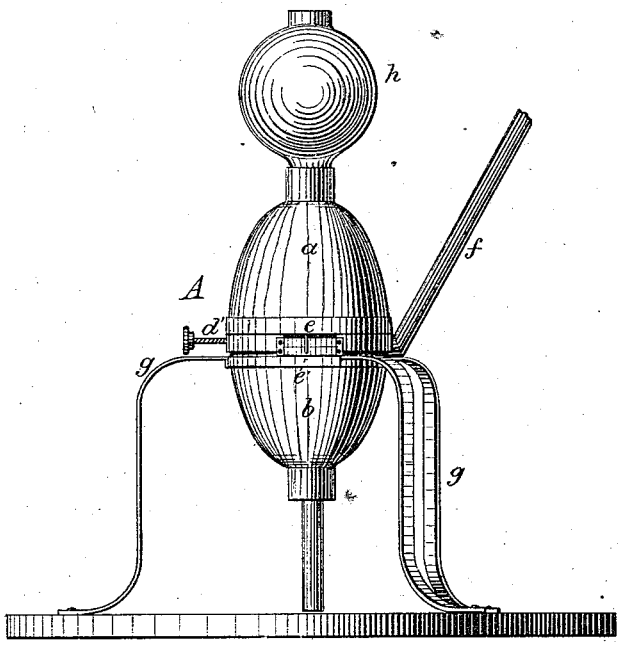


Fig. 3.

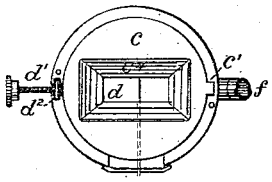


Fig. 2.

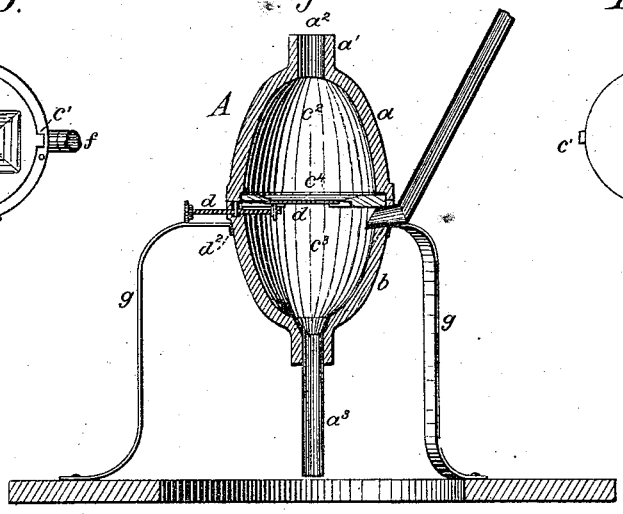
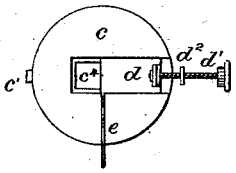


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES M. ROSS, OF MORRISONVILLE, ILLINOIS, ASSIGNOR TO MARY C. ROSS, OF SAME PLACE.

IMPROVEMENT IN FEED-REGULATORS.

Specification forming part of Letters Patent No. **161,553**, dated March 30, 1875; application filed March 11, 1875.

To all whom it may concern:

Be it known that I, JAMES M. ROSS, of Morrisonville, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Mill-Burr Feeders; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in the feed mechanism for grinding-mills; and consists in the construction and arrangement of the several parts, hereinafter described, and pointed out in the claim.

In the drawings, Figures 1, 2, 3, and 4 exhibit my device in its complete form, and in its details of construction.

A is the feeder-case. It is made oval or egg shaped, and divided horizontally into the two equal parts *a* and *b*, which are neatly fitted together, and held in position by pins or other suitable means. The upper part can be removed or turned back, so that the several devices within the feeder-case may be readily reached for purposes of repairs, removal of obstructions that may by accident be carried in the grain and get caught in the valve, or for any other desired purpose. The upper part is provided with the collar a^1 and throat a^2, to afford facilities for connecting with the machinery or mechanism which brings the grain to the feeder. The lower part *b* is provided with a collar and opening, for attaching the discharge-pipe a^3, which delivers the grain to burr. *c* is a circular shelf or partition, neatly fitted in the upper end of the lower part *b*. It is held in place by a gain cut around the inner surface of the case, and by projection c^1, resting in a suitable gain or mortise in the edge of the case. It divides the feeder into two conical chambers, c^2 c^3, each having its base on the shelf. It is perforated with the central opening or throat c^4, through which the grain passes from the upper to the lower chamber. It is made concave on its upper surface, to facilitate the concentration of the grain to the central opening. *d* is a sliding valve, arranged to move in grooves formed in the under side of the shelf *c*. It closes or opens the throat c^4. It is operated by the screw d^1, secured by a swivel-head in a boss on the under side thereof. The screw is threaded in a nut, d^2, let into the rim of the case A. *e* is an indicator. It is attached to the under side of the valve *d*, and extends to the outer circumference of the case A, where it moves along the scale *e'*, and marks or indicates on said scale the number of pounds or bushels of grain that will pass through the throat c^4 in a given time.

The valve, the scale, and the indicator are arranged by mathematical rules, so that the exact amount of grain, either in pounds or bushels, which may pass through any size opening of the throat c^4 will be accurately marked by the numbers on the scale *e'*.

f is a pipe, to connect the feeder with an exhaust-fan. It connects with the lower chamber c^3 immediately below the shelf *c*, so that any dust or bad grain will be drawn out of the grain as the latter drops loosely from the upper chamber. The discharge-pipe a^3 has a funnel-shaped top, which fits within the chamber c^3. It may be removed when desired. *g* is a frame in which the feeder is placed and held in proper position, and by which it is secured to the casing of the burrs. *h* is a glass globe, constructed so as to connect with the feeder. It enables the grain to be observed as it passes into the feeder.

The conical shape of the upper chamber c^2 holds the grain more compactly and centrally over the valve, so that no vibratory or jarring movement need be given to the feeder to cause the grain to flow through the opening c^4 when the latter is open; and the conical shape of the lower chamber concentrates the grain into the discharge-pipe a^3, the latter delivering to the burr.

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

An oval mill-burr feeder, A, divided into the conical chambers c^2 c^3 by the central shelf *c*, having opening c^4 and valve *d*, and exhaust-pipe *f*, connecting with the chamber c^3 immediately under the shelf *c*, as and for the purposes specified.

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

JAMES M. ROSS.

Witnesses:

S. B. HARRISON,

N. C. FREDERICK.