

E. H. COTTON.
Grinding Mill.

No. 51,022.

Patented Nov. 21, 1865.

Fig: 1.

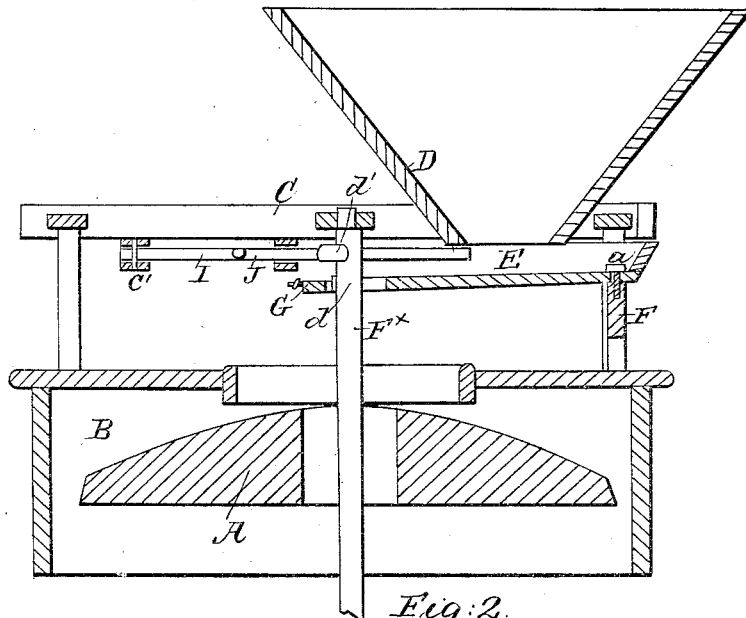
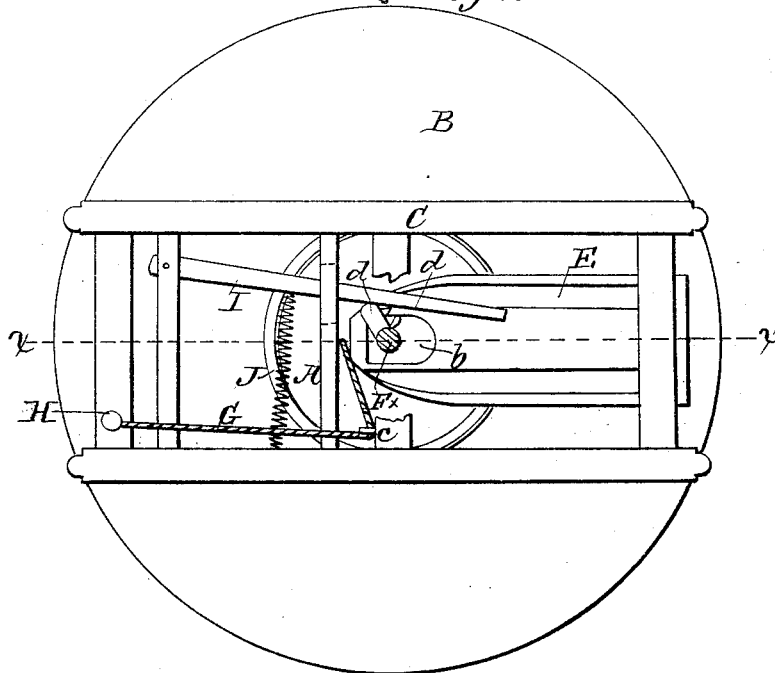


Fig: 2.



Witnesses.
Wm. Brewin
Geo. Lusch

Inventor.
E. H. Cotton
By Munn & Co.
attys

UNITED STATES PATENT OFFICE.

ELIJAH H. COTTON, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 51,022, dated November 21, 1865.

To all whom it may concern:

Be it known that I, ELIJAH H. COTTON, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented a new and Improved Feed-Regulator for Millstones; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *xx*, Fig. 2; Fig. 2, a plan or top view of the same, with the hopper detached.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and useful improvement in feeding grain and other substances to be ground to millstones, whereby an even or regular feed is obtained without the labor of watching the shoe and the injury done to the stones as well as to the substance being ground by an irregular feed entirely avoided.

A represents an upper millstone or runner; B, the curb, and C the frame on the curb, which frame supports the hopper D. These parts are, or may be, of usual construction, and therefore do not require a minute description.

E represents the shoe, the back part of which works on a pivot, *a*, in a standard, F, on the top of the curb B, the front part of said shoe having a hole or aperture, *b*, made in it for the spindle F^x of the stone A to pass through, the upper end of said spindle having its bearing in the frame C. The outer end of the shoe E is supported or retained at a proper height by means of a cord, G, which passes through an eye, *c*, on the frame C, near the hopper, and extends forward to the front end of said frame, and is attached to a knob, H, which is allowed to turn, and around which the cord G may be wound, more or less, in order to adjust the outer or discharge end of the shoe E to the desired height.

The spindle F^x is provided with a lip or projection, *d*, to strike against one side of the hole or aperture *b*, in the shoe through which

the spindle F^x passes. By this means the shoe is vibrated and the grain or other substance to be ground fed into the eye of the millstone, the amount of feed being regulated by raising or lowering the outer or discharge end of the shoe.

I represents a bar, one end of which is secured by a pivot, *c'*, to the frame C, the opposite end bearing against the spindle F^x , which has a lip or projection, *d'*, to strike the bar I. This bar I extends underneath the lower end of the hopper D, and has a spiral or other spring, J, attached to it to keep the bar in contact with the spindle or give it the return motion each time the lip or projection *d'* leaves or passes it.

When the upper stone or runner is in operation the shoe E and bar I are both vibrated, the bar I, in consequence of its inner end working under the lower end of the hopper D, insuring the discharge of the grain or other substance from the hopper, preventing said substance from clogging or arching over in the hopper and causing the shoe E to be uniformly supplied, so that the stones will be fed regularly or evenly.

The irregular feeding of millstones is attended with serious disadvantages. If the feed is too small the stones work in contact, lose their sharpness, and particles of grit are mixed with the ground substance, and the latter frequently heated or "scratched," as it is technically termed. If the feed be too great the substance will not be properly ground, the stones will be liable to choke and run under proper speed. These difficulties, it is believed, are fully obviated by my invention.

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

The employment or use, in combination with a vibrating feed-shoe for millstones, of a vibrating bar arranged so as to work underneath the hopper and insure an even or regular discharge therefrom into the shoe, substantially as shown and described.

ELIJAH H. COTTON.

Witnesses:

WM. A. HACKETT,
JOSEPH W. FELLOWS.