

D. GARTMAN.
Chopping or Grinding-Mill.

No. 208,678.

Patented Oct. 8, 1878.

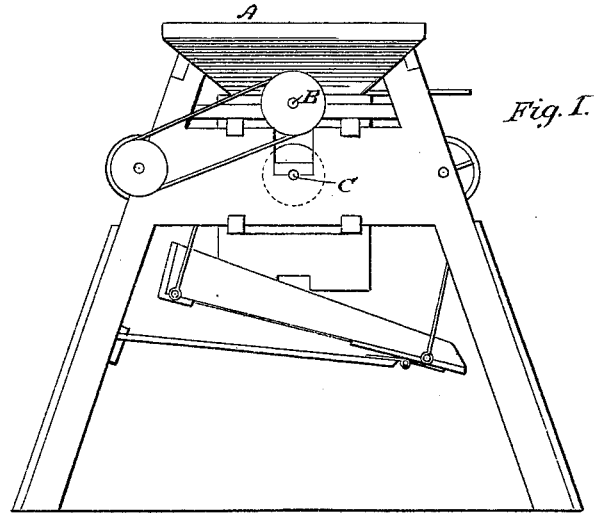


Fig. 1.

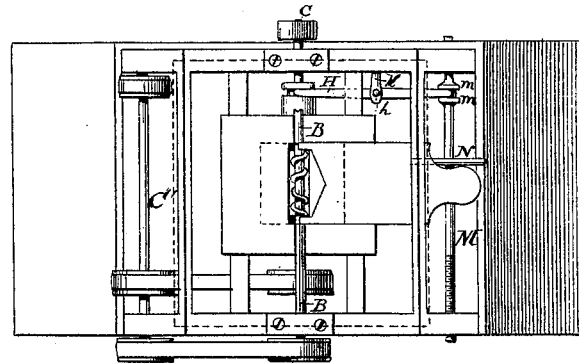


Fig. 2.

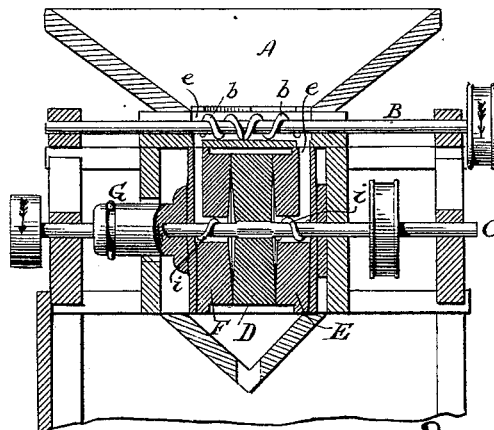


Fig. 3.

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IMPROVEMENT IN CHOPPING OR GRINDING MILLS.

Specification forming part of Letters Patent No. **208,678**, dated October 8, 1878; application filed September 19, 1878.

To all whom it may concern:

Be it known that I, DAVID GARTMAN, of York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Chopping-Mills, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation; Fig. 2, a horizontal section; Fig. 3, a vertical section.

My invention relates to chopping-mills for grinding food for animals; and it consists, first, in a means for automatically feeding the material from the hopper to the burrs; secondly, in a novel arrangement of devices for setting the burrs; and, lastly, in a device for feeding up cotton-seed and other light articles toward the central or revolving burr.

In order to enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the said drawings, A represents the hopper of a chopping-mill. Through the lower portion of the hopper passes the shaft B, provided with the reversed screw-threads *b b*, which meet on the shaft in the center of the hopper, as shown in Fig. 3.

It is evident from this construction that, as the shaft revolves in the direction of the arrow, the material within the hopper will be moved from the center of the hopper outward toward the feed-openings in the bottom. The shaft B being connected by gearing with the main shaft C of the mill through the intermediate shaft C', its movement will be entirely governed by the movement of the main shaft, and consequently the material to be ground will be fed slower or faster, to suit the running speed of the burrs, or rather of the central revolving burr, D, which revolves between the two stationary burrs E and F.

The material to be ground is fed to the burrs through the side opening, *e e*, and in feeding down light substances—like cotton-seed, for instance—the tendency would be to choke on reaching the shaft C. To prevent this I provide the shaft C with the short threads *i i*, passing only once around the shaft, and reversed in direction, whereby the shaft C, turn-

ing in the direction of the arrow, feeds the material through the burrs E and F, and against the revolving burr D. On the main shaft C, I attach the grooved wheel G, over which fits snugly the bifurcated end of the spring-lever H. This lever is pivoted, at *h*, to an arm, *k*, secured to the frame of the mill. The outer end of the lever H is loosely held between two collars, *m m*, on the screw-shaft M, which shaft is provided with a hand-wheel, N, for operating it, as shown in Fig. 2.

By this construction and arrangement of devices I am enabled to set my mill for grinding as may be desired, as by turning the screw-shaft the spring-lever H forces in or out the burr F, so as to increase or diminish the space in which the revolving burr D acts. To guard against the possibility of an accident from stone or other hard substances being fed into the mill, the lever H is constructed with sufficient spring to allow it to yield readily to any hard substance passing in between the burrs, and thus avoid breakage.

The bed-stone F may be attached to the shaft and connected with the wheel G by any of the well-known means, whereby the wheel G is made to adjust the burr F, as described.

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

1. In a chopping-mill, the shaft B, provided with the reverse screw-threads *b b*, in combination with the hopper and double grinding-surfaces, substantially as and for the purpose set forth.

2. The combination of mechanism feeding the grain positively from the hopper, an intermediate duct or ducts, and mechanism feeding positively to the grinding-surfaces, substantially as set forth.

3. The bifurcated spring-lever H, pivoted as described, in combination with the shaft C, provided with the grooved wheel G, and the screw-shaft M, provided with the collars *m m*, substantially as and for the purpose set forth.

DAVID GARTMAN.

Witnesses:

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