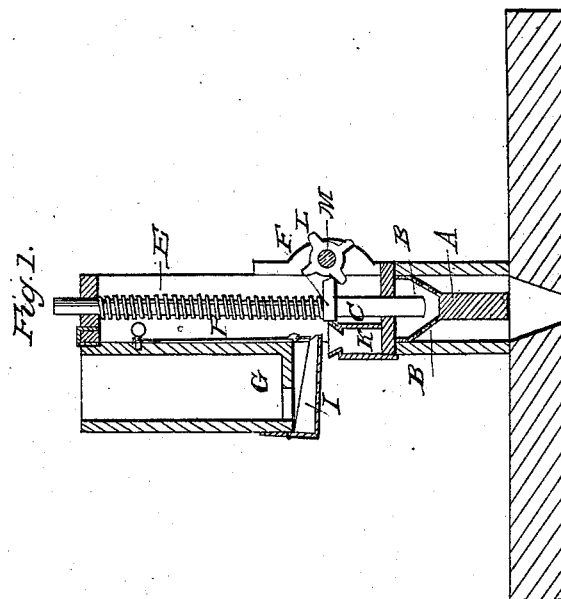
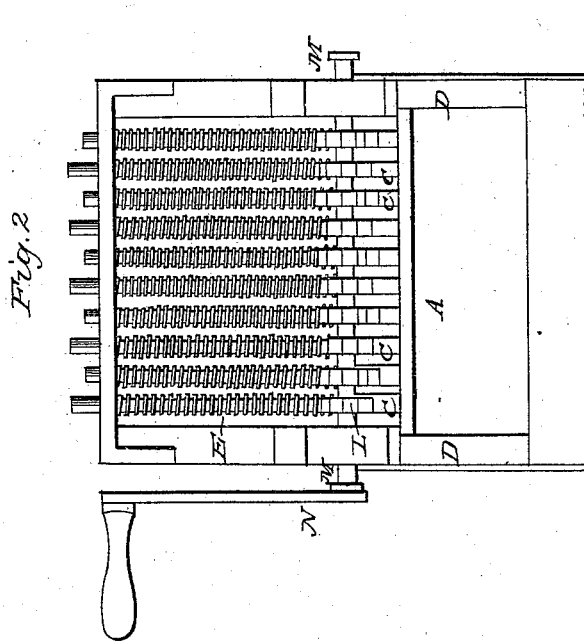


F. McCARTHY.

Percussion Mill.

No. 3,924.

Patented Feb. 24, 1845.



UNITED STATES PATENT OFFICE.

FONES McCARTHY, OF DEMOPOLIS, ALABAMA.

PERCUSSION-MILL FOR REDUCING OR GRINDING GRAIN.

Specification of Letters Patent No. 3,924, dated February 24, 1845.

To all whom it may concern:

Be it known that I, FONES McCARTHY, of Demopolis, Marengo county, State of Alabama, have invented a new and useful Machine for Grinding, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical cross section. Fig. 2 is a front elevation.

This machine consists of a concave bed A having inclined perforated sides B rising from its upper edges on either side at an angle of about fifty degrees; in which concave bed are arranged a series of vertical grinders C whose lower ends are made convex to correspond with the concave bed in which they operate while grinding and channeled or grooved on the sides to permit the meal to pass up the inclined perforated sides. The bed A is arranged and secured in a suitable frame D in which the grinders are also placed. The grinders are made of metal of sufficient size and weight to perform the grinding to the degree of fineness required. A spiral spring E is coiled around each grinder for increasing its action on the grain to be ground, one end of said spring bearing against the under side of the cap of the frame in which the grinders operate and the other upon a shoulder F formed on the shank of the grinder. The grinder operates on the grain conveyed to the concave bed by hopper G, spout I, and inclined planes K, by being raised vertically and then let fall upon the grain having its momentum increased by the spiral spring on its shank, which is contracted in raising the grinder, the weighted grinder being raised by a cogged wheel L on a horizontal shaft M arranged and operated in the frame in front of the grinders by a crank handle N turned by hand or otherwise. The perforations in the inclined sides of the concave bed are to be of the size of the grains of the meal ground through which they will pass by being forced up the said inclined sides by the action of the grinder as it descends upon the corn in the concave bed, the successive blows of the vertically descending grinder upon the corn pulverizing or reducing it to a powder and crowding it as it accumulates in the bed over its sides and up the inclined

perforated sides through the apertures of which the meal passes and descends to a receiver below. A double inclined plane K is placed above the bed over one side thereof over which the grain passes to the bed and by which it is prevented from escaping from the bed during the operation of grinding to which double inclined plane the grain is conducted by a shaking shoe I attached to the bottom of a hopper G containing the grains to be ground.

The bed may be extended to any required length and any convenient number of similarly constructed grinders may be arranged in the same, raised in succession by the cog wheels on the horizontal shaft in front of them and made to act upon the grain in the manner before described by the gravity of the grinders whose descent upon the grain is accelerated by the action of the spiral springs coiled around them previously contracted by the elevation of the grinders.

The admission of the grain to the bed is regulated by means of the shoe whose inclination is increased or diminished at pleasure by a cord or chain P attached to it at the front and passed around a turning shaft or axle inserted into the frame, or in any convenient place, the back of the shoe being hinged to the bottom of the hopper.

What I claim as my invention and which I desire to secure by Letters Patent is—

The construction of the bed in which the grain is ground and through which it is discharged when ground to the degree of fineness required, that is to say constructing the center of the bed with a longitudinal semi-circular or other concave depression in combination with the sides flaring outward and upward forming two inclined planes which are perforated with apertures of the size to which the grain is to be reduced and through which the same is discharged when thus reduced, said inclined sides serving also the purpose of conductors of the grain to the bed and as guards to prevent its escape therefrom in combination with the pounders as herein described.

FONES McCARTHY.

Witnesses:

EDWIN MAHER,
JAMES GARDNER.