E. FAHRNEY.

Hominy Mill.

No. 19,060. Patented Jan. 5, 1858.

Fig. 3

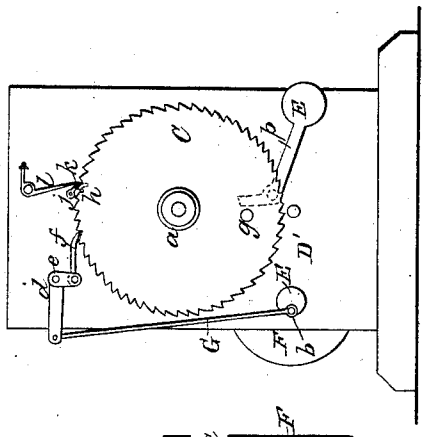


Fig. 2

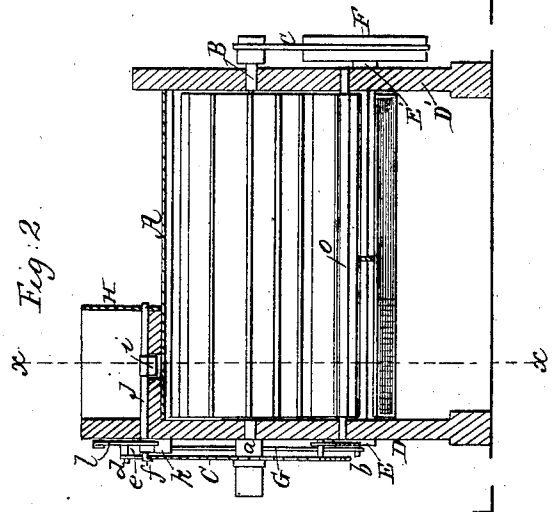
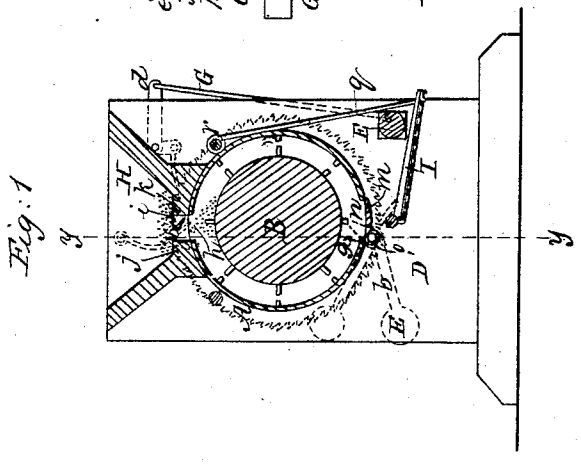


Fig. 1



UNITED STATES PATENT OFFICE.

EZRA FAHRNEY, OF DEEP RIVER, IOWA, ASSIGNOR TO JOHN DONALDSON, OF MOUNT MORRIS, ILLINOIS.

HOMINY-MILL.

Specification of Letters Patent No. 19,060, dated January 5, 1858.

To all whom it may concern:

Be it known that I, EZRA FAHRNEY, of Deep River, in the county of Poweshiek and State of Iowa, have invented a new and useful Improvement in Mills for Preparing or Cracking Hominy; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a transverse vertical section of my improvement, (*x*) (*x*) Fig. 2, showing the plane of section. Fig. 2, is a longitudinal vertical section of ditto (*y*) (*y*) Fig. 1, showing the plane of section. Fig. 3 is an end view of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to an improvement in the intermittent hominy feeding and discharging device patented by me in 1854 and is designed to dispense with the necessity of using slides for feeding and discharging, and thereby simplify the actuating mechanism and also insure a more certain operation of the parts which control the introduction of the uncracked corn, and the discharge of the same after it has been cracked.

The nature of the improvement proposed, consists in the employment of self closing hinged flap valves, one at the top and the other at the bottom of the cylinder, in combination with a ratchet wheel arranged loosely on the hub of the stationary cylinder, and having two pins on its face and being slowly actuated by a pawl which is connected with a crank shaft by means of a vertical rod and jointed elbow lever. In this arrangement slides, which are liable to stick or bind in their movement, are superseded by hinged flap valves, which are more easy and certain in their movement, and in place of the worm wheel, screw shaft, and cam wheel and other devices which rendered the machine described in my patent complicated, the simple ratchet wheel with pins and pawl, and their simple actuating devices, are employed, and that too, in such a manner that but very little power is required to operate them, as may be evident from the description hereinafter given.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents a cylinder which has a shaft B placed longitudinally in it. The shaft B is provided with beaters and the internal surface of the cylinder is provided with teeth or corrugations. The cylinder and shaft are of usual construction and therefore do not require a minute description.

C represents a ratchet wheel which is placed loosely on a hub (*a*) attached to one of the two uprights D, D′, between which the cylinder A is secured.

E represents a shaft which is placed between the two uprights D, D′, at their lower ends. This shaft E′ has a pulley F at one end and a crank pin (*b*) at the opposite end. The shaft E receives its motion by a belt (*c*) from the shaft B.

To the crank pin (*b*) a connecting rod G is attached, and the upper end of this rod is connected to a bent lever (*d*) which works on a fulcrum pin (*e*) attached to one of the uprights D. The bent lever (*d*) has a pawl (*f*) attached to it, said pawl catching into the ratchet C.

On the inner side of the ratchet C, and near its periphery, two pins (*g*) (*h*) are attached. These pins are placed at opposite sides of the center of the ratchet as shown in Fig. 3.

On the cylinder A a hopper H is placed. This hopper has a flap or door (*i*) fitted in its bottom, the flap or door being attached to a rod (*j*) one end of which passes through the upright D′ and has an arm (*k*) attached to it, a spring (*l*) bears against this arm, the spring (*l*) keeps the flap or door (*i*) closed.

To the under side of the cylinder A a door or flap (*m*) is attached. This door or flap covers an opening (*n*) which extends the whole length of the cylinder A. The flap or door is attached to a rod (*o*) the ends of which are fitted in the uprights D, D′. To one end of the rod (*o*) an arm (*p*) is attached, said arm having a weight E′ at its outer end. The weight E′ is sufficiently heavy to keep the flap or door (*m*) closed over the opening (*n*) when said arm is not acted upon by any extraneous force.

I represents a screen which is placed between the lower parts of the two uprights D, D′, said screen being suspended by rods (*q*) (*q*) from a cross-rod (*r*) between the upper parts of the uprights.

The operation is as follows. The corn is

placed in the hopper H, and motion is given the shaft B in any proper manner. As the shaft B rotates motion is communicated to the shaft E by the belt (*c*) and the ratchet C is rotated by the pawl (*f*) which is actuated by the lever (*d*) and connecting rod G from the shaft E. As the ratchet C rotates, the pin (*h*) at every revolution of the ratchet actuates the arm (*k*) of the rod (*j*), and the flap or door (*i*) is elevated and a sufficient quantity of corn is let into the cylinder A, and at every revolution of the ratchet the pin *g* actuates the arm (*p*) and the flap or door (*m*) is opened and the cracked corn or hominy allowed to escape from the cylinder.

It will be understood that as the two pins (*g*) (*h*) are placed on the ratchet at opposide sides of its center, sufficient time elapses between the opening of the flap (*i*) and the opening of the flap (*m*) to allow the corn to be properly cracked within the cylinder A, and the pins (*g*) (*h*) are so placed that when the lower door or flap (*m*) is closed the flap (*i*) will be immediately opened to let a fresh supply of corn within the cylinder A.

The advantage of the above improvement is that a very simple and automatic or self-acting feeding and discharging device is obtained. It will be seen that if a large hopper H is provided the mill will not require an attendant, or one will only be required at long intervals to fill the hopper, and the mill by my improvement will be fed in a more even and steady manner than can possibly be done by hand.

Having thus described my invention I wish it to be distinctly understood that I make no claim in this application to an intermittent feeding and discharging device for hominy machines having two slides, one arranged at top and the other at bottom of the cylinder, said slides being operated alternately by a cam wheel driven by a worm wheel and screw shaft, as such an arrangement was patented by me in 1854, but

What I do claim as my invention and desire to secure by Letters Patent, as an improvement on the mill patented to me on the 15th day of May 1855, is—

The employment of two self closing hinged flap valves *i*, *m*, one at the top and the other at the bottom of the cylinder A, in combination with a ratchet C, arranged loosely on the hub of the cylinder, and having two pins *g*, *h*, on its face and being actuated slowly by a pawl *f*, which is connected with a crank shaft E, by means of a vertical rod G, and jointed elbow lever *d*, *e*, substantially as and for the purposes set forth.

EZRA FAHRNEY.

Witnesses:
MYRON WHITNEY,
JOHN MORGAN.