J. ENGELKE, F. FEINER & V. WEISMANTEL.

Hominy-Mill

No. 207,261. Patented Aug. 20, 1878.

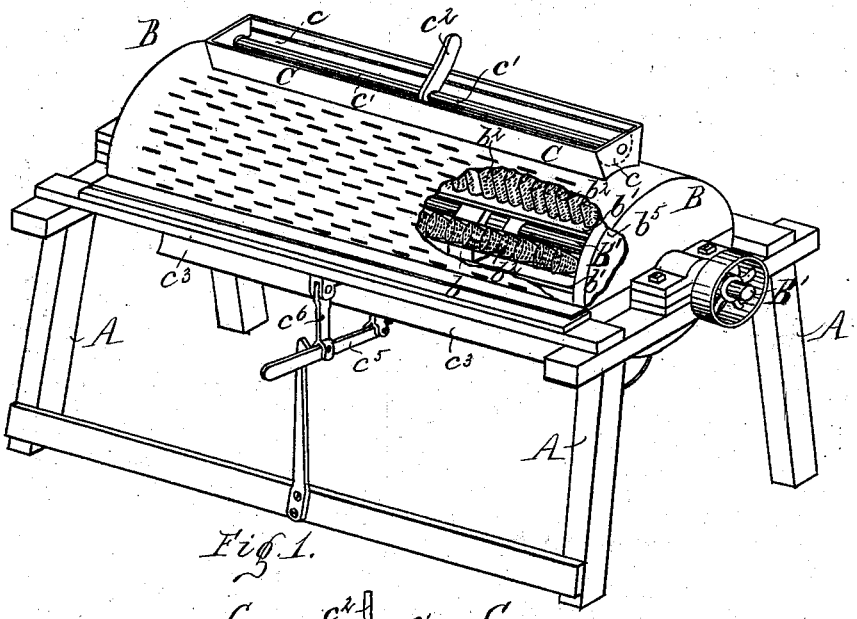

Fig. 1.

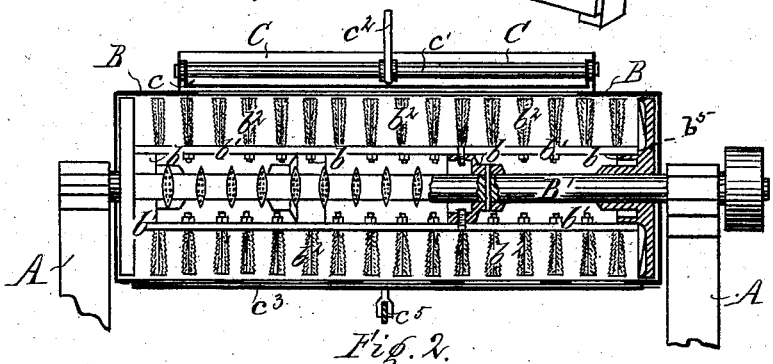

Fig. 2.

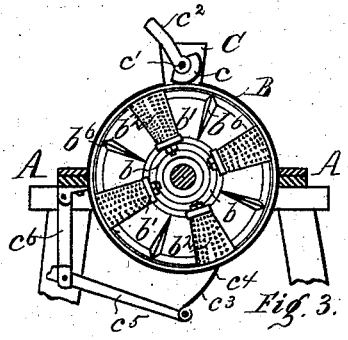

Fig. 3.

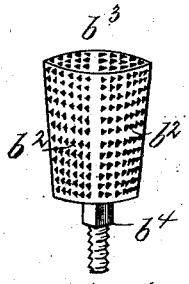

Fig. 4.

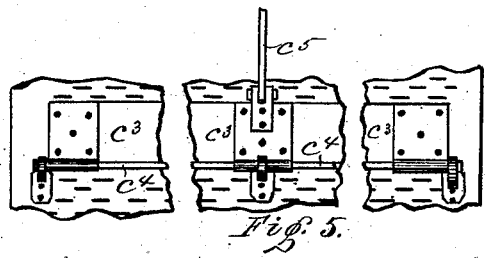

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN ENGELKE AND FRANK FEINER, OF ST. LOUIS, MISSOURI, AND VALENTIN WEISMANTEL, OF BELLEVILLE, ILLINOIS.

IMPROVEMENT IN HOMINY-MILLS.

Specification forming part of Letters Patent No. **207,261**, dated August 20, 1878; application filed October 4, 1876.

To all whom it may concern:

Be it known that we, JOHN ENGELKE and FRANK FEINER, both of St. Louis, Missouri, and VALENTIN WEISMANTEL, of Belleville, St. Clair county, Illinois, have invented an Improved Hominy-Mill, of which the following is a specification:

This invention is an improved hominy-mill, and as such relates to a novel construction of the operating parts to subject the introduced shelled corn to a grating, beating, scouring, polishing, and breaking action, removing the cuticle and the germ and inferior qualities of the corn, and discharging the hulled grains in the condition of purified and superior quality of hominy.

The nature of our invention, more particularly stated, consists, first, in the construction of parts by means whereof the whole charge of corn can be delivered into, as well as discharged from, the machine instantaneously, or at one and at the same time, so as to avoid the disadvantages hereinafter pointed out; secondly, in the novel and improved construction of the rasp-hullers on the revolving shaft, that do the grating, cutting, breaking, scouring, and polishing of the corn; thirdly, in the arrangement of the aforesaid rasp-hullers on the shaft, as well as the combination of said rasp-hullers with spiders, shaft, and the stationary casing.

Of the drawing, Figure 1 is a perspective view of our improved mill. Fig. 2 is a longitudinal section. Fig. 3 is a cross-section. Fig. 4 is a detail perspective of a rasp, enlarged. Fig. 5 is a detail bottom plan of the door which controls the discharge-opening.

A is a suitable frame, upon which the operating parts are mounted. B is a stationary perforated casing. It is within this casing that we provide our improved parts, which are constructed and operated as follows: B′ is a central power-shaft driven from the power source, as ordinarily. This shaft has four centers—that is, the points to which we secure to said shaft the supports or spiders *b b b b*. It is to the extremity of these spiders we secure the outer bars or frames, b^1 b^1, (as many as there are arms on the spiders, or as the capacity of the machine calls for.) It is to the bars b^1 that we further secure the rasp-hullers b^2, of which there can be the proportionate number, according to the size of the machine.

The rasp-hullers b^2 we construct (see Fig. 4) of cone shape—that is, to have their outer surface, b^3, enlarged, and decreasing in diameter as the surface approaches the center. The object of this construction of the hullers is to force the corn inward or to the center, instead of allowing the centrifugal force to throw the corn outward to the periphery. The surface at b^3 of the rasp-hullers conforms to the shape of the casing, and this surface, besides grating upon the corn, is to stir and agitate every grain coming in contact, so that said grains are caused to pass along the rasp side and approach the center of the machine. This prevents hiding on the part of the grain, and continually stirs the same away from the casing and to pass along the cone-rasp body. The rasp-surface proper is as shown in the figures, being V-shaped cutting-edges, for the better separation of the shell or inferior parts and qualities of the corn. Further, each huller has its cutting-points arranged in opposite directions, (see Fig. 4,) one-half of the cutting or rasp points facing to the right, the other to the left, which enables us to change the position of the hullers in case one side of the surface thereof becomes worn or inoperative. The points on one side becoming dull or stumpy by the revolution in one direction, we can readily reverse the position of the huller, and in this way obtain the advantage of their longer use and service.

Each huller is constructed with a screw-shank at b^4, which is square-shaped, and can therefore be secured in corresponding openings made in the bars b^1 by a nut engaging the threads of the shank, and as indicated in Figs. 2, 3, and 4.

Besides thus securing the hullers b^2, their arrangement with relation to each other on the bars b^1 is as shown in Fig. 2—viz., in alternate position—and so that the hullers on one bar will occupy the place midway between the hullers on the opposite bar, and so on. The corn, therefore, that passes through the space between the hullers on one bar is caught and acted upon by the opposite huller or hullers.

The shaft, therefore, carries the spider-bars and hullers, and all together revolve to subject the entered corn to the required treatment.

The spider at each end of the machine has cast, to form part of it, the disks b^5, (see Figs. 2 and 3,) and said disks have their inner face formed with bevel cutting-edges, (see b^6,) the object of which is to direct the corn away from the ends and into the center, and in doing so pass the corn over to the cutting-surface of the contiguous huller.

It is our object to overcome the disadvantages resulting from the ordinary manner of charging and discharging the corn from the mill—viz., a charge of corn being entered, by the time said charge is all entered, the first-entered part thereof was subjected to too much treatment, and the last-entered corn would not receive sufficient treatment. In our case the last-entered corn is treated same as the corn first entered, for we enter the corn at one and the same time, and in like manner discharge it. Hence said parts are as follows: C is the hopper. This is large, and extends nearly the horizontal length of the casing, as shown in Figs. 1 and 2, the feed-opening of the hopper being of same length. Said feed-opening is controlled by an oscillating valve attached to a rock-shaft and operated by a hand-lever. c is the valve, and is made similar, as seen in Fig. 3. This shape forms the necessary bottom for the hopper when it is to be filled, and at same time facilitates the discharge of the corn from hopper through its feed-opening. c^1 is the shaft, its ends turning in the sides of the hopper. (See Figs. 1, 2, 3.) c^2 is the hand-lever. By therefore oscillating this lever, the slide or valve is opened and shut. When, therefore, the hopper is filled with corn the entire contents can be charged through the feed-opening into the machine proper. This manner of operating the valve by a simple side movement renders the charging of the corn instantaneous, since the weight of the grain facilitates its passage through the feed-opening.

The treatment inside the machine having been accomplished, the discharge is effected in a similar way through the bottom opening in the casing, as was the charge entered at top. The casing at bottom is provided with a discharge-opening of same length as at top. This is controlled by a door, c^3, made to conform to the curvature of the casing, (see Figs. 1, 3, and 5,) said door being hinged by a shaft, c^4, that turns in proper lugs secured to the casing, as shown in Fig. 5. To the door is further secured a hand-lever, c^5. This is pivoted to a hinged arm, c^6, (see Figs. 1 and 3,) so that by pulling this lever outward the door can be closed. The discharge of the treated corn is then had as instantaneously as possible.

The casing B, as shown, (see Figs. 1 and 5,) has slits or perforations, as usual, for the escape of the dust, dirt, &c.

What we claim is—

1. The disks b^5, having bevel cutting-edges b^6, in combination with spiders b, as and for the purposes set forth.

2. The rasp-hullers b^2, bars b^1, spiders b, disks b^5, shaft B′, casing B, and frame A, all constructed and arranged to operate as and for the purpose set forth.

In testimony whereof we have hereunto set our hands.

JOHN ENGELKE.
FRANK FEINER.
VALENTIN WEISMANTEL.

In presence of—

WILLIAM W. HERTHEL,
CONRAD KROLL.