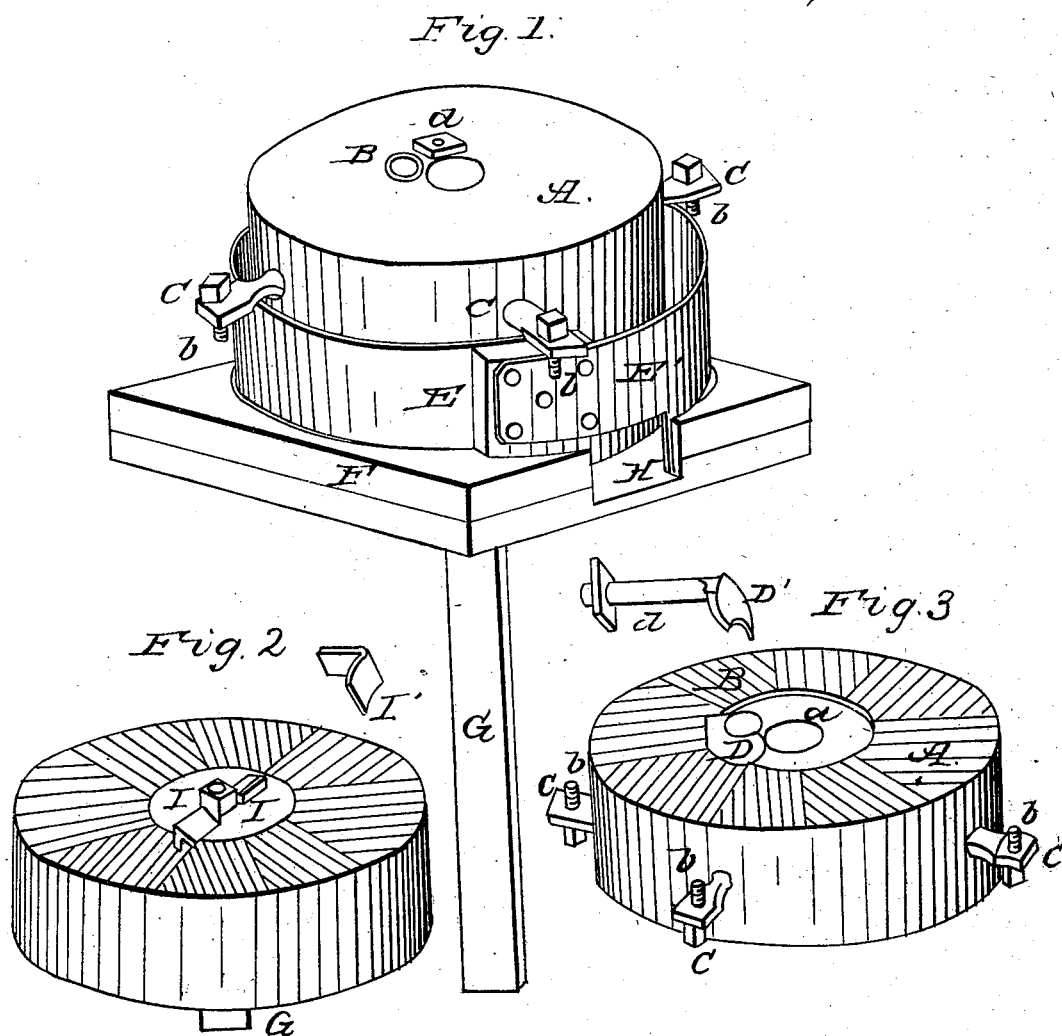


A. FISHER.
Grinding Mill.

No. 5,266.

Patented Aug. 28, 1847.



UNITED STATES PATENT OFFICE.

AMORY FISHER, OF TUSCALOOSA, ALABAMA.

MILL FOR GRINDING CORN IN THE COB.

Specification of Letters Patent No. 5,266, dated August 28, 1847.

To all whom it may concern:

Be it known that I, AMORY FISHER, of Tuscaloosa, in the State of Alabama, have invented certain improvements in the Manner of Constructing the Machine or Mill for Grinding Corn in the Ear, Bark for Tanning, and other Articles, for which machine or mill Letters Patent of the United States were granted to James M. Miller, of the city of Mobile, in the State of Alabama, under date of the 20th of January, 1843, in which mill I own an interest; and I do hereby declare that the following is a full and exact description of my improvements thereon.

In the mill as constructed by Miller the upper stone was made the runner, and through the eye of this runner the corn, bark, or other article, to be ground, was fed in by means of a funnel formed tube placed obliquely therein, as it was necessary to the feeding that the upper end of said funnel formed tube should be concentric, or nearly so, with the runner, and that the article to be ground should enter at some distance from the center. A knife, or knives, affixed to the bed stone immediately under the lower end of the feeding tube, with the aid of the balance rine, served to cut, or crush the corn, or other article to be acted upon, so as to convert it into pieces sufficiently small to be acted upon by the stones. A hoop surrounded the lower stone, and the lower part of the upper stone, in the ordinary manner, being placed at an equal distance from said stones in their whole circuit. To allow room for the entrance of the corn, bark, &c., the lower stone had an excavation near its center, extending to a distance sufficient to receive the articles fed in to be ground.

I have thus given a general detail of the manner in which the mill was constructed upon which mine is an improvement, and this I have done for the purpose of showing its defects, and the nature of the arrangements by which said defects are obviated in my mill.

In the original mill I have stated that the upper stone was the runner, the consequence of which was that it had a constant tendency to rise, and the dropping in of a large ear of corn was almost sure to throw it off its bearings, requiring constant attention and producing much delay, while from its construction it was not capable of being

weighted down. By making the lower stone the runner, this difficulty is entirely removed, and although this, by itself, is not a new feature in mills, it becomes, in combination with other devices, an important improvement in this mill.

In the accompanying drawings Figure 1, is a perspective view of a part of the improved mill, the covering, and the frame work being removed the better to represent certain parts of the arrangement. Fig. 2, is a perspective view of the lower stone, or runner, with the knives, or crushers, inserted in the face thereof. Fig. 3, is a face view of the upper, or stationary stone, with its appurtenances.

A, Figs. 1, and 3, is the upper stone, and B, a perforation through it at a suitable distance from its center, into which the corn, or other article to be ground, and crushed, is to be fed. In the original mill the feeding was effected too near to the center, and this was unavoidable as the upper end of the feeding tube had to be in the center, and its lower end was necessarily at but a small distance therefrom; but by making the upper stone stationary the feeding may be at any desired distance from the center, and there may be more than one feeding opening. I make these feeding openings larger at the bottom than at the top, in order that the articles to be ground may pass through unobstructedly.

C, C, are iron supports inserted in the edge of the upper stone, for the purpose of sustaining it, the points of which have their bearing on the frame work of the mill, and serve to adjust the stone to a perfect level.

I, I, Fig. 2, represent two knives, or crushers, one of which is shown separately at I'. These may be from six to eight inches long on their cutting edges, according to the size of the stone. Mortises are made in the lower stone to receive them, so that their heads rest on its face, and they rise about an inch therefrom. To receive and admit of the revolving of these knives, a portion of the upper stone is cut away, as at *a*, Fig. 3, so that the stones may be brought into contact, or nearly so. The length given to these knives, or crushers, allows the feeding to take place sufficiently far from the center, and in combination with the space *a*, formed in the upper stone prevents the accumulation of the husks about the spindle, which in the original machine was a source of per-

petual inconvenience, resulting from the little centrifugal force where the crushing took place, and the excavation in the lower stone.

5 Instead of using the balance rine as a part of the crushing apparatus, I affix a knife, or crusher D, in the upper, or stationary stone, the shank of which passes through the stone, to receive a nut *d*, by
0 which the knife is made fast. This knife is shown separately at D'. When in place its face is even with the excavation *a*, and the article fed in is at once in contact with it.

5 The hoop which surrounded the stones in Miller's machine required the constant attention of a person to clear out the ground stuff between it and the stones, as, unlike meal, it will pack in this space, and actually
0 burst the hoop; but this inconvenience I remove in the following manner: E, E, represents the hoop as constructed by me. The inner end thereof I place nearly in contact with the stones, and gradually increase its
5 distance therefrom, so that at its outer end E', there may be a space left of two or three inches; by this means the choking is prevented, and the ground stuff will be delivered freely through the opening H, in the
0 ordinary way.

F, is the bed, or floor of the mill; and G,

Fig. 2, the spindle to the upper end of which the lower stone, or runner, is made fast. This may be raised or lowered in the usual manner to regulate the finer or coarser
35 grinding of the stuff.

Having thus fully described the manner in which I construct, arrange, and combine, the respective parts of my mill, what I claim therein as new, and as an improvement on
40 that patented by James M. Miller, is—

1. The combining of the knives, or crushers, with the mill stones in the manner, set forth, the upper stone being stationary, and being provided with a feeding opening, or
45 openings B, and a cutter, or crusher D, situated in the cavity *a*, made in said stone to admit the revolving knives I, I, affixed in the stationary stone; these parts being
50 combined, arranged, and operating, in the manner and for the purpose set forth.

2. I also claim the manner of arranging the hoop E, in such a mill, in order to insure the ready delivery of the ground stuff.

I do not claim either of the devices in my
55 first claim individually, but I do claim them in their combination as producing the useful results herein made known.

AMORY FISHER.

Witnesses:

HENRY A. SNOW,

CHAS. SNOW.