Jan. 19, 1937. R. EBERLY 2,068,450

FEED GRINDER

Filed Sept. 30, 1935

Fig. 1.

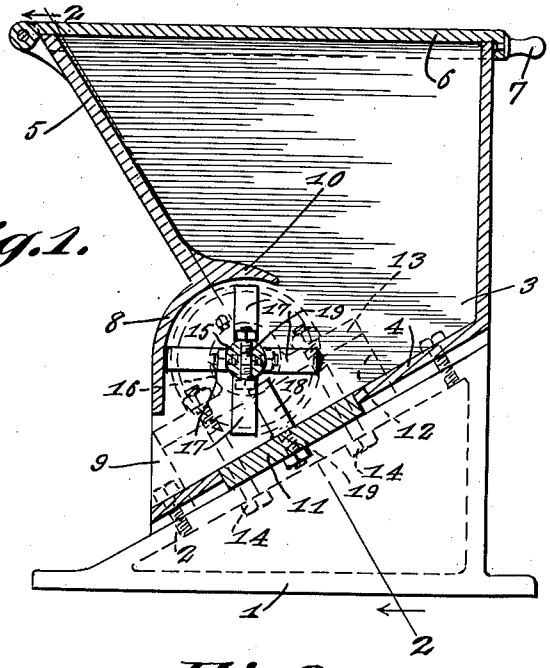
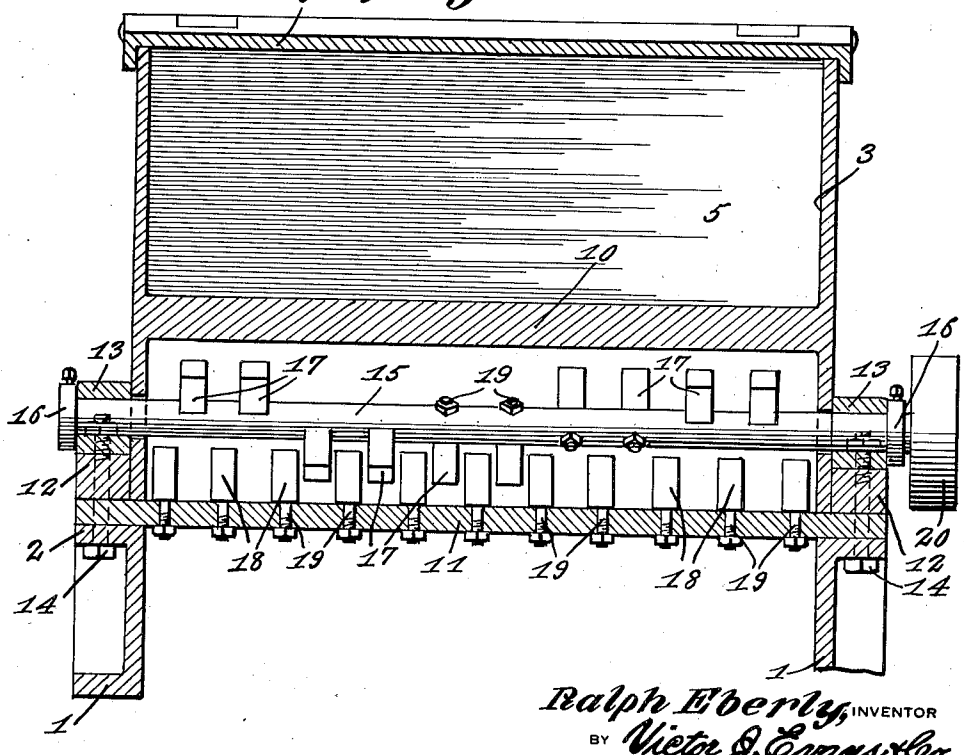


Fig. 2.



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FEED GRINDER

Ralph Eberly, Dalton, Ohio

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1 Claim. (Cl. 83—6)

This invention relates to feed grinders, and its general object is to provide a grinder that is primarily designed for crushing stock feed, especially corn on the cob, without clogging and with minimum strain on the bearings, due to the particular arrangement of the parts and especially the rotary crushing spikes or teeth on their shaft and with respect to the stationary spikes.

A further object of the invention is to provide a feed grinder of the character set forth, that is simple in construction, inexpensive to manufacture and operate, and is extremely efficient in operation and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a vertical sectional view taken through the grinder or crusher which forms the subject matter of the present invention.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 1, looking in the direction of the arrows.

Referring to the drawing in detail, the supporting members include a base 1 which may have openings therein for receiving suitable securing means for fixing the grinder in position for use. A pair of supporting members are employed and it will be noted that they are substantially triangular in formation with an inclined upper surface in the form of a flange 2.

The body 3 of the crusher includes an inclined bottom 4 that follows the inclination of the flange 2 and is bolted thereto as clearly shown in Figure 1. It will be noted that the hopper 5 is formed with the body 3 and merges therein, and includes a forwardly inclined front wall that has hinged thereto a flanged cover 6 provided with a handle 7 that extends rearwardly therefrom and centrally of the rear flange. The cover is relatively heavy and is normally held closed by the weight thereof.

The forward portion of the body is curved as at 8 and terminates above the bottom 4 to provide an outlet 9 that preferably extends the length of the body, as suggested in Figure 1, and extending inwardly from the front wall is a deflecting plate 10 that follows the curvature of the curved forward portion of the body, as clearly shown in Figure 1.

Arranged in the lower wall of the body 3 are recesses that have arranged in and extending therethrough a relatively flat bar 11 having its ends mounted on the flange 2 and which are received in recesses arranged in the bottom of supporting blocks 12 for bearing blocks 13, the latter having bolt and nut connections 14 with the bolts thereof passing therethrough as well as the supporting blocks, the ends of the bar 11 and the flanges 2, consequently all of these parts are held fixed to the supporting members for the crusher through the medium of the bolt and nut connections 14.

Mounted for rotation in the bearing blocks 13 is a shaft 15, the latter having collars 16 fixed on the ends thereof by set screws as shown, and secured at intervals on the shaft 15 are crushing spikes or teeth 17, which are arranged in pairs. One spike of each pair is arranged parallel with its companion spike, and each pair of spikes radiate from the shaft 15 at various angles with respect to each other to provide a staggered arrangement in the form of a spiral, as clearly shown in Figure 2. That arrangement balances the shaft 15, and is one of the features that assures efficient operation of the crusher with minimum use of power.

Secured to the bar 11 and rising therefrom in row formation are the stationary spikes or teeth 18 which are spaced apart a sufficient distance with respect to each other to allow for the free passage of the spikes 17 between the same.

Each of the spikes 17 and 18 includes a rectangular body with a shank 19 thereon, the shanks having threaded outer ends and which are received in openings in the bar 11 and shaft 15 for fixedly securing the spikes thereto through the instrumentality of nuts as shown.

Secured to the shaft 15 is a pulley 20 for the purpose of receiving a belt driven from a suitable source of power.

From the above description and disclosure of the drawing, it will be obvious that I have provided a crusher that is primarily designed for use in crushing corn on the cob, but it can be used for crushing the cobs, or even as a corn sheller, and can be operated in a clockwise or anticlockwise direction and will perform its intended function for a prolonged period of time with minimum attention and repairs. Of course, the bearing blocks are provided with lubricating means such as oil holes or grease cups, to lubricate the shaft 15.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the contruction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:

A feed crusher comprising base means, a body secured to the base means and including a hopper and an inclined bottom with an outlet arranged at the lower end thereof, a flanged cover for the hopper and hinged thereto, a bar bridging the base means and extending across said bottom for disposal at an inclination therewith, supporting blocks mounted on the ends of the bar, bearing blocks mounted on the supporting blocks, means extending through all of the blocks and bar for removably securing the same to the base means, parallel stationary cutting spikes fixed to the bar and rising therefrom longitudinally thereof in row formation, a shaft journaled in the bearing blocks, and cutting spikes secured to and radiating from the shaft in spiral row formation and arranged for passage between the stationary spikes and in pairs with the spikes of each pair parallel with each other.

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