R. J. STEEN.

FEEDER FOR GRINDERS.

APPLICATION FILED DEC. 16, 1908.

918,215. Patented Apr. 13, 1909.

Fig. 1.

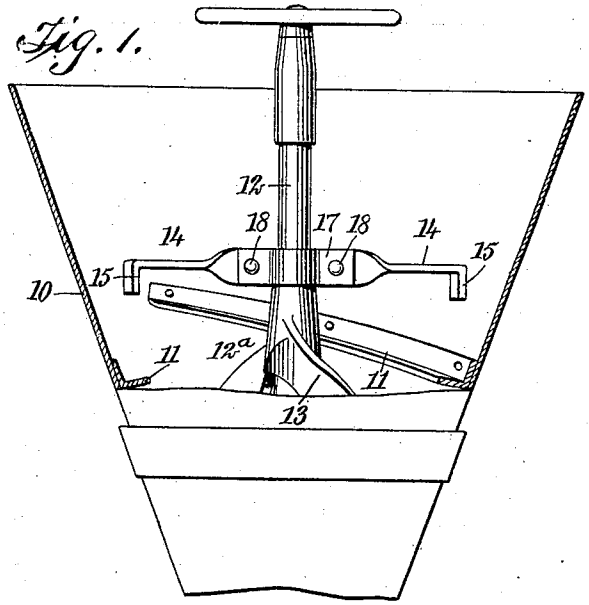
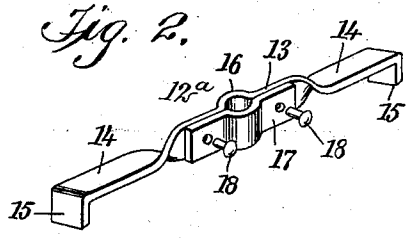


Fig. 2.



WITNESSES

L. Gordon Hardy

C. W. Fairbank

INVENTOR

Robert J. Steen

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT JAMES STEEN, OF CANYON, TEXAS.

FEEDER FOR GRINDERS.

No. 918,215. Specification of Letters Patent. Patented April 13, 1909.

Application filed December 16, 1908. Serial No. 467,743.

To all whom it may concern:

Be it known that I, ROBERT JAMES STEEN, a citizen of the United States, and a resident of Canyon, in the county of Randall and State of Texas, have invented a new and Improved Feeder for Grinders, of which the following is a full, clear, and exact description.

My invention involves a new attachment for use within the hopper of crushers or grinders, and the object of the invention is to facilitate the feeding of the material to the grinding or crushing mechanism.

My invention is applicable to any form of grinder or crusher having a hopper, but it is especially applicable for grinders or crushers for grain.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures, and in which—

Figure 1 is a side elevation of a device constructed in accordance with my invention, a portion of the hopper being broken away; and Fig. 2 is a perspective view of my improved attachment.

My improved attachment is adapted for use in connection with any suitable form of hopper 10 of a crusher or grinder for grain, and within said hopper there is preferably secured an inwardly-directed flange 11 helically disposed. This flange extends out into the hopper a short distance and the pitch is such that the grain when agitated by my improved device tends to follow down the incline of the flange toward the lower portion of the hopper and thus feed to the grinding mechanism.

Centrally disposed within the hopper is a vertically-extending shaft 12, having the ordinary feeding mechanism 12^a at the lower end thereof, said shaft and feeding mechanism being rotated during the operation of the grinder. My improved attachment is secured to the shaft 12 and includes a central clamping portion 13, outwardly-extending agitating portions 14, and terminal packing portions 15. The attachment is preferably formed of a bar of wrought iron bent to form a semi-cylindrical recess 16 intermediate its ends for engagement with one side of the shaft 12, and in connection with this central portion of the bar is a second bar or clamping member 17. This clamping member is also provided with a semi-cylindrical recess for engagement with the opposite side of the shaft 12, and the two are adapted to be rigidly secured together by bolts, screws, or rivets 18, so that the attachment will be rigid with the shaft and be rotated therewith. The clamping portion of the bar adjacent the shaft is turned edgewise so as to facilitate its engagement with the shaft, but beyond the ends of the clamping bar 17, the main bar of the attachment is rotated through an angle of approximately ninety degrees, so that it will lie in a substantially horizontal plane. The two horizontally-disposed portions upon opposite sides of the clamping portion, constitute the agitator for preventing the grain from clogging and to facilitate the uniform feeding of the same to the grinding or crushing mechanism.

The outer ends of the bar are bent downwardly substantially at right angles to form two packing portions which come adjacent to but spaced from the walls of the hopper. These terminal packing portions are at an angle to the tapered wall of the hopper and are disposed slightly above the helical flange 11. The coöperation of the packers 15 and the flange 11 causes the grain to not only move around within the hopper but also to move downwardly toward the center.

My improved attachment is very simple in construction and may be readily applied to any grain grinder or crusher already in use. The attachment facilitates an even and uniform feeding of the grain and insures the delivery of all of the grain to the grinding or crushing mechanism.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

The combination with a hopper having a helically-disposed flange secured to the inner surface thereof and a centrally-disposed shaft, of an attachment comprising a bar having a central clamping portion curved for engagement with said shaft, means for se-

curing said central portion to said shaft, outwardly-extending agitating portions lying in substantially a horizontal plane, and downwardly-extending terminal portions constituting packers and movable adjacent said flange.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT JAMES STEEN.

Witnesses:
JAS. URY CRANFORD,
M. P. GARNER.