No. 898,309. PATENTED SEPT. 8, 1908.

J. I. BROWN.

RELEASING MECHANISM FOR GRINDING MILLS AND DISK PULVERIZERS.

APPLICATION FILED MAR. 12, 1908.

FIG. 1.

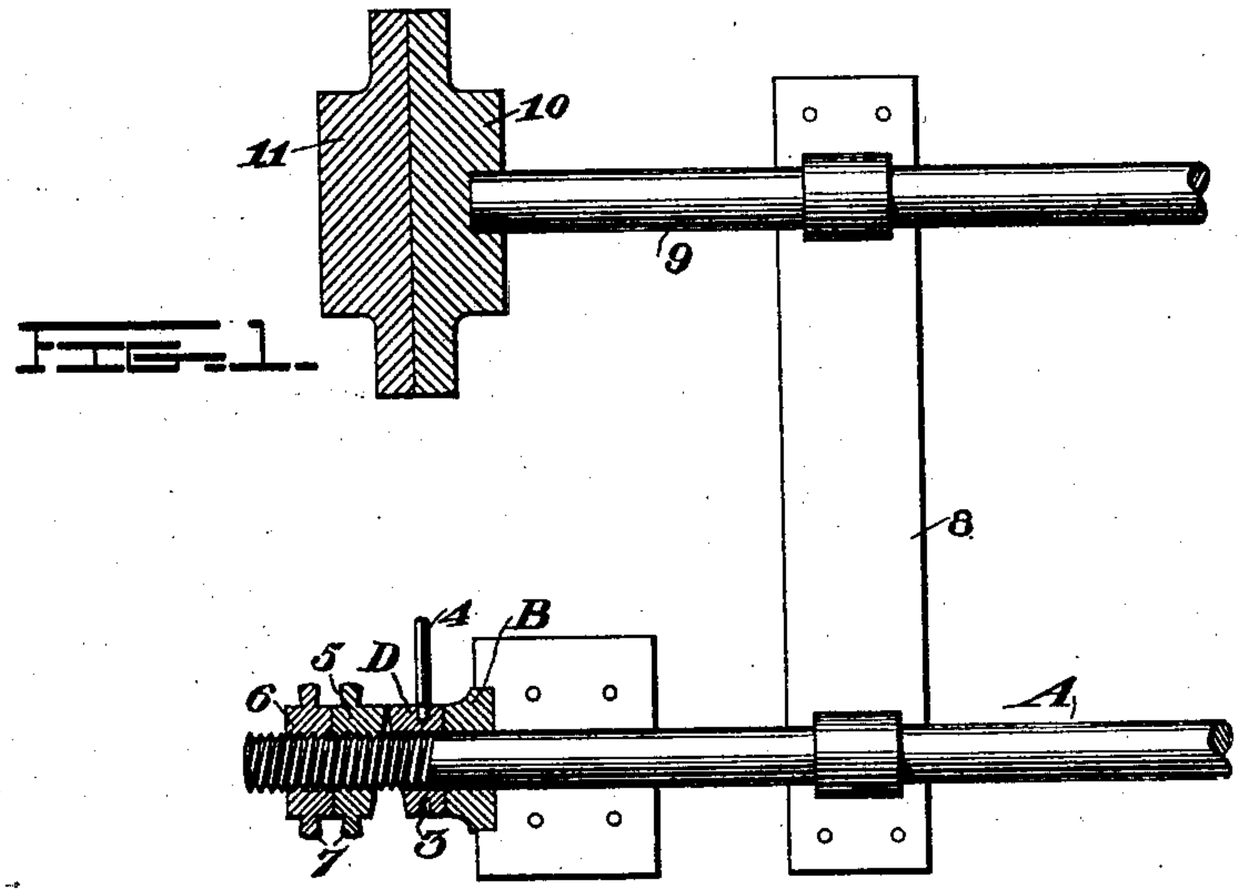


FIG. 2.

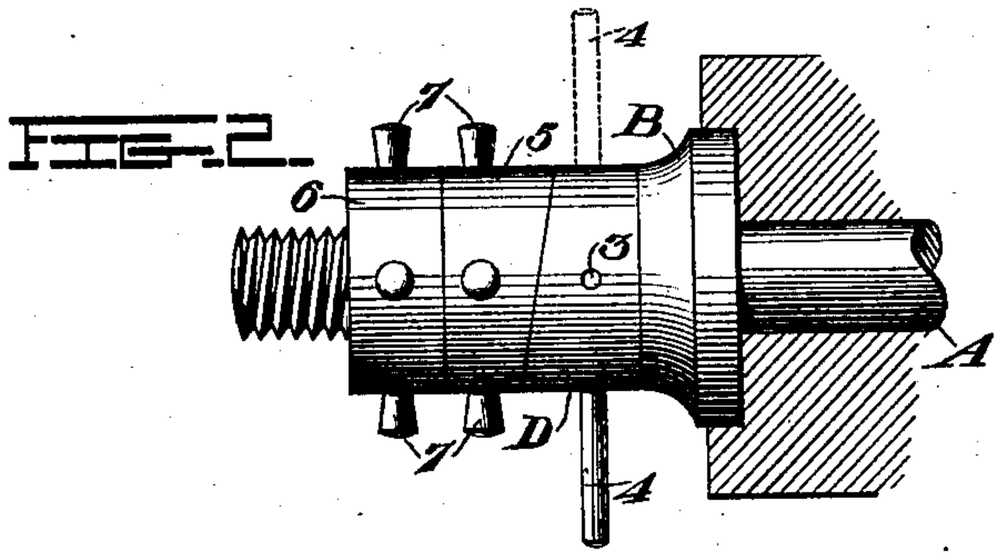
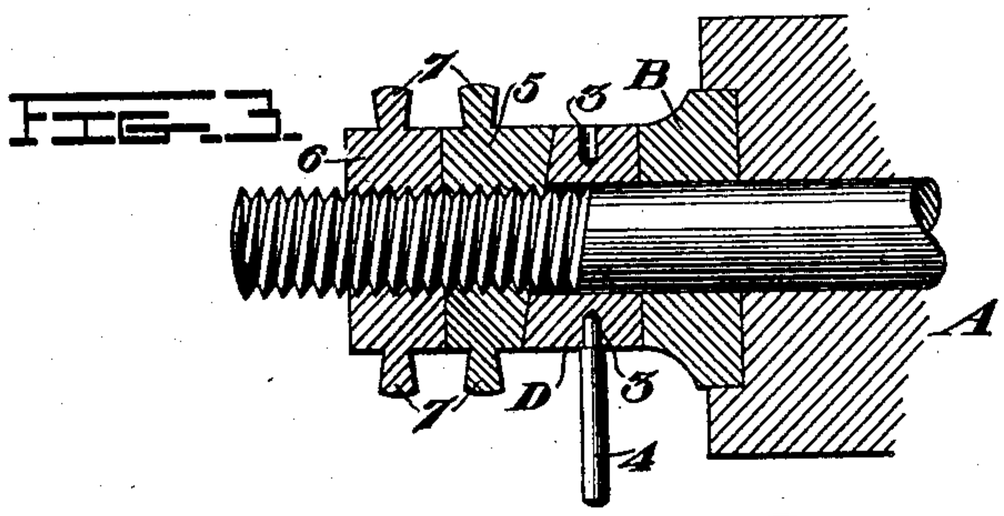


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES I. BROWN, OF CRIPPLE CREEK, COLORADO.

RELEASING MECHANISM FOR GRINDING-MILLS AND DISK PULVERIZERS.

No. 898,309. Specification of Letters Patent. Patented Sept. 8, 1908.

Application filed March 12, 1908. Serial No. 420,568.

To all whom it may concern:

Be it known that I, JAMES I. BROWN, a citizen of the United States, residing at Cripple Creek, in the county of Teller and State of Colorado, have invented certain new and useful Improvements in Releasing Mechanism for Grinding-Mills and Disk Pulverizers, of which the following is a specification.

My invention relates to an improvement in releasing mechanism for grinding mills and disk pulverizers, and the object is to provide a releasing means whereby the adjustment of the disks can be released or changed by the slightest turn, either for the purpose of cleaning the disks, which is necessary when grinding ore, or otherwise regulating the mechanism and adjustment and then effecting the readjustment as readily by the same means.

The invention consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings—Figure 1 is a top plan view partly in section, Fig. 2 is a view in side elevation, and Fig. 3 is a longitudinal sectional view.

A, represents a shaft movable through a stationary collar or bearing B, and the end of the shaft is preferably, although not necessarily, screw-threaded. A washer D is received over the screw-threaded end of the shaft and abuts the stationary collar or bearing B. The face of the washer is beveled, and on its exterior are holes or pits 3, 3 for the reception of the handle 4 for turning the washer. Adjusting nuts 5 and 6 are mounted on the screw-threaded end of the shaft and adapted to be screwed along the shaft, preferably by means of handles 7, 7, by means of which the desired adjustment of the disks is secured. The nut 5 has its face abutting the washer D beveled to correspond with the face of the beveled surface of the washer D, to afford a locking engagement. To obtain this locking connection the nut 5 is screwed up against the washer D as closely as required to take up the desired difference between the beveled connections and secure the proper adjustment, when the jam nut 6 is screwed tightly against the nut 5, thereby completing the adjustment and locking connection.

On the shaft A an arm 8 is secured, which is adapted to support the revolving shaft 9, and secured to the shaft 9 is a revolving disk 10, which is adapted to coöperate with a stationary disk 11.

When the disks 10 and 11 are brought together for grinding purposes the enlarged ends of the washer D and nut 5 are together, and when it is desired to release or change the connection for cleaning the disk or otherwise adjusting the mechanism, such as making a readjustment to a different mesh, the handle 4 is turned so as to cause the washer D to break its engagement or contact with the nut 5, thereby turning the washer and releasing or changing the adjustment of the disk, which is regulated by the length of the turn given to the washer. The turning of the washer loosens up the connection between the washer and the nut 5, permitting the shaft A to have a movement through the bearing B corresponding to the adjustment made between the nut 5 and washer D. This movement of the shaft A will in turn give an adjustment to the shaft 9 whereby the disks are separated. The disks can be brought back to their first position after the washer has been turned, loosening the adjustment by simply turning the washer back to its first engagement with the nut 5, thereby causing the disks to be in close engagement for grinding purposes. The different adjustments as to the engagement of the disks 10 and 11 can be accomplished by turning the washer D to the desired point either for loosening the connection between the washer D and nut 5 or bringing them into a tight engagement. If the engagement between the washer D and nut 5 is not sufficient, the nut 6 can be turned on the shaft A and the nut 5 turned in the same direction, thereby giving a greater movement to the shaft A, which in turn will give the same movement to the shaft 9.

It will be seen that I have a very simple and practical means whereby the disks can be released and re-adjusted as desired by simply turning or reversing the position of the washer in its contact with the nut.

It is evident that more or less slight changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth, but:—

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A releasing mechanism for grinding mills and disk pulverizers, comprising a

shaft, a collar or bearing through which the shaft moves, a beveled washer, adjusting nuts adapted to screw on the shaft to hold the washer in position, one of the nuts being beveled and adapted to bear against the beveled portion of the washer whereby the shaft is moved longitudinally by the turning of the washer.

2. In a grinding mill the combination with a stationary disk, of a rotatable shaft, a disk mounted on the shaft, a secondary shaft, an arm connecting the two shafts together, a collar or bearing through which the secondary shaft moves, a beveled washer, adjusting nuts adapted to screw on the secondary shaft to hold the washer in position, one of the nuts being beveled and adapted to bear against the beveled portion of the washer, whereby the secondary shaft is moved longitudinally by the turning of the washer.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES I. BROWN.

Witnesses:

W. S. FURLONG,

H. D. MACDONALD.