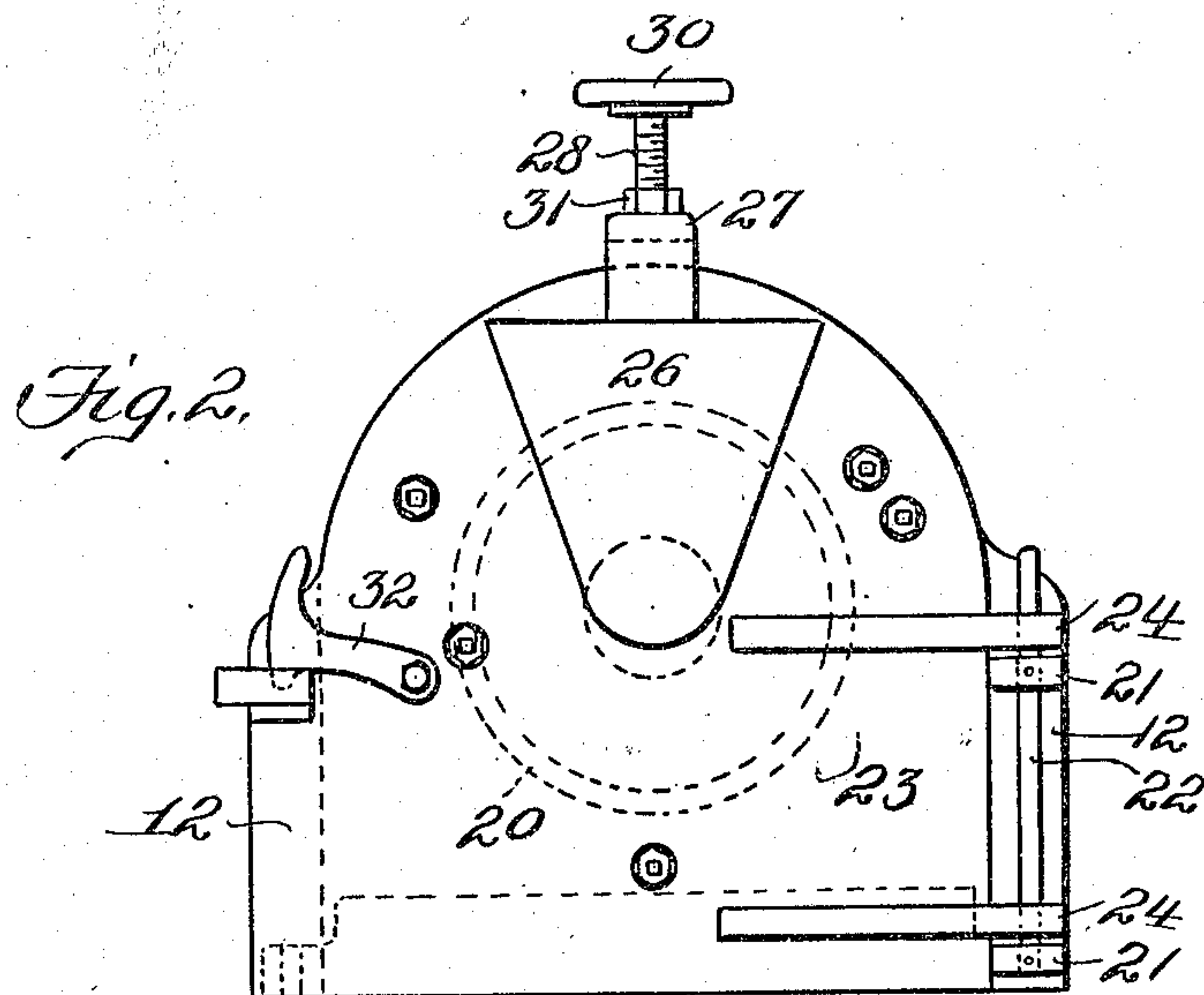
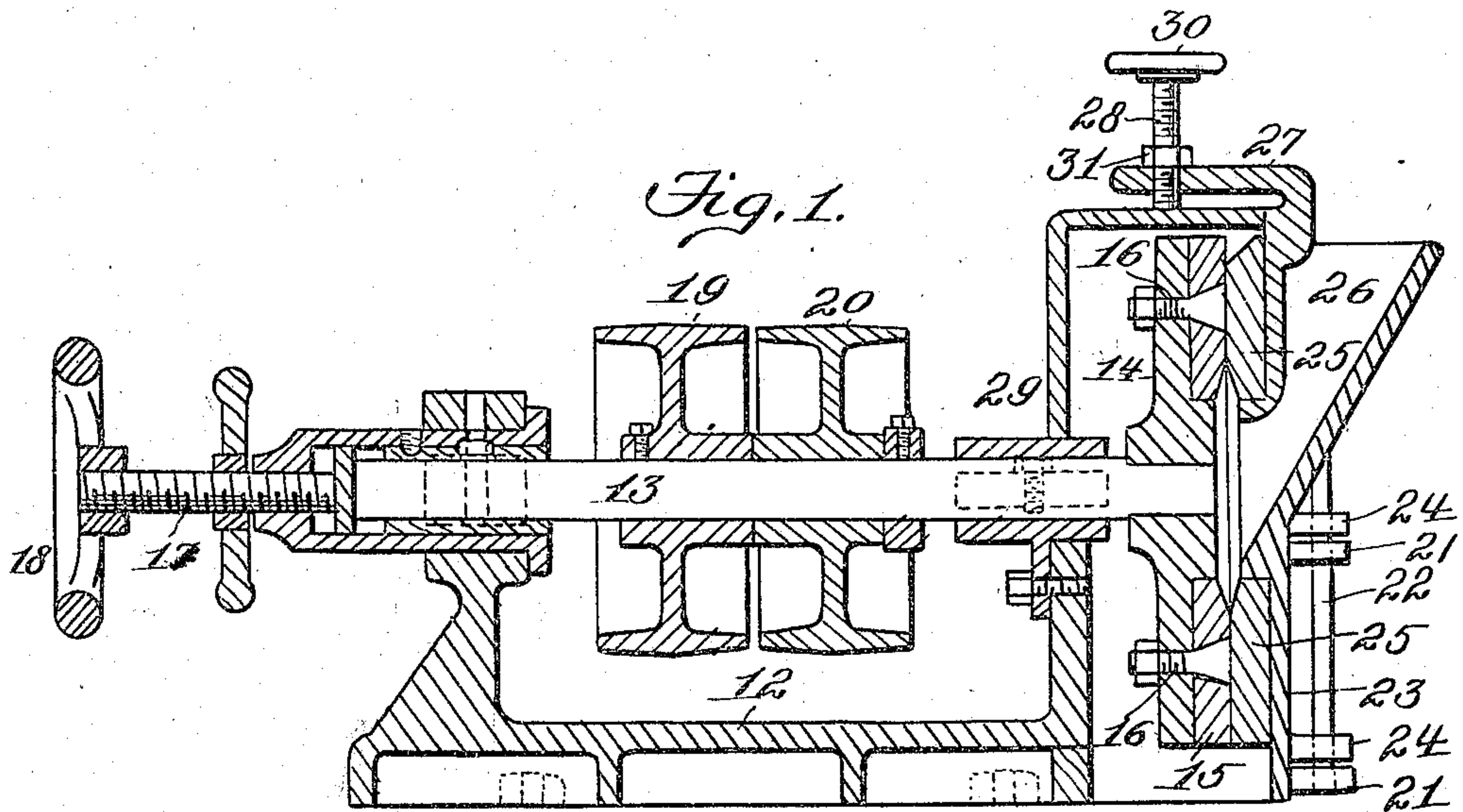


T. L. & T. J. STURTEVANT.
GRINDING MILL.
APPLICATION FILED OCT. 5, 1905.

924,014.

Patented June 8, 1909.



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UNITED STATES PATENT OFFICE.

THOMAS LEGGETT STURTEVANT, OF QUINCY, AND THOMAS JOSEPH STURTEVANT, OF WELLESLEY, MASSACHUSETTS, ASSIGNORS TO STURTEVANT MILL COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

GRINDING-MILL.

No. 924,014.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed October 5, 1905. Serial No. 281,404.

To all whom it may concern:

Be it known that we, THOMAS L. STURTEVANT and THOMAS J. STURTEVANT, citizens of the United States, residing, respectively, at Quincy and Wellesley, in the county of Norfolk and State of Massachusetts, have invented or discovered certain new and useful Improvements in Grinding-Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of grinders or grinding mills in which a rotating disk or plate coöperates with a stationary disk or plate, the material to be ground being fed to the central portions of said disks or plates so that as it is reduced it works outward therefrom. In this class of grinders, and particularly where metallic grinding disks or plates are employed, the said disks or plates, when in use, become cut or scored in circles or rings which wear deeper and deeper, so that fine grinding soon becomes impossible, and the grinding disks or plates have to be discarded although not nearly worn out.

This invention has for its object to remedy the difficulty referred to by so mounting one of the grinding disks or plates that it may be adjusted in a plane which is transverse to the axis of the rotating disk or plate, or to the axis of the shaft by which said rotating disk or plate is carried. In effecting such transverse adjustment of one of the grinding disks or plates the stationary disk or plate is preferably mounted for such adjustment. In the preferred form of our invention, however, the stationary disk or plate is mounted on a pivoted or swinging door-like part hinged to a vertical pin or bolt, and means are provided for raising or lowering the said door-like part to adjust the said stationary disk or plate carried thereby in a plane transverse to the axis of the rotating plate, and thereby change the center of one plate relative to the other, so that the tendency of the plates to wear in grooving circles may be avoided. Of course the adjustable plate may be so mounted as to be moved horizontally, instead of vertically, in this adjustment, if desired. The door-like part on which the adjustable plate is mounted can be swung aside when access to the interior portion of the mill or the grinding chamber is desired.

In the accompanying drawings, Figure 1 is a longitudinal section of a grinder, embodying the present invention, and Fig. 2 is an end view thereof looking from the right of Fig. 1.

Referring to the drawings, 12 denotes the frame of the machine on which is mounted the horizontal driving shaft 13 to which is affixed the wheel or disk 14 carrying the rotating grinding disk 15 rotating in a vertical plane and attached to said wheel or disk in any suitable manner, as by means of bolts 16. The shaft 13 is adjustable longitudinally to secure the desired fineness of the output of the mill, in a well-known manner, by means of a screw 17 provided with a hand wheel 18; and the said shaft is also furnished with the usual fast and loose pulleys 19 and 20.

The frame 12 is provided with ears 21 to which is attached a pin or bolt 22 serving as a pivot or hinge for the door-like part 23 having ears 24 through which the said pin or bolt passes. Mounted on the hinged or door-like part 23 is the vertically disposed and normally stationary grinding disk or plate 25, and the said hinged door-like part 23 is provided with a feed opening or hopper 26 opening downward into the "eye" of the mill, or the central portions of the grinding disks or plates. The door-like part 23 is provided at its top with an arm 27 furnished with an adjusting screw 28 abutting against the top of the mill casing 29, said screw being preferably provided with a hand wheel 30, and with a set nut 31. The hinged or door-like part 23 is preferably provided with a suitable catch or latch 32 engaging a portion of the stationary frame and serving to hold the said hinged part closed.

From the foregoing it will be obvious that an adjustment of the stationary disk or plate 25, transverse to the center of the driving shaft 13, or transverse to the axis of the rotating disk or plate, may be effected by means of the screw 28 serving to raise or lower the hinged door-like part 23, on which the said stationary or non-rotating disk or plate is mounted, so as to change the center of one of the grinding disks or plates relative to the other, for the purpose of bringing different portions of said plates opposite each other and thereby evenly distributing the wear and preventing the adjacent faces of the said disks or plates from becoming

scored or grooved in circles. By thus adjusting one of the said grinding plates or disks relative to the other their working lives will be very considerably extended and the expense of frequent renewals of these plates will therefore be avoided.

Having thus described our invention we claim and desire to secure by Letters Patent:

1. In a grinding machine, the combination with a rotating disk or plate, of a casing having a section adjustable transversely to the axis of rotation of said rotating disk or plate, a stationary disk carried by said adjustable section, and an adjusting screw for moving said adjustable section transversely to the said axis of rotation of said rotating disk or plate.

2. In a grinding machine, the combination with a rotating disk or plate, of a casing having a section adjustable transversely to the axis of rotation of said rotating disk or plate, a stationary disk carried by said adjustable section, and means for adjusting said adjustable section.

3. In a grinding machine, the combination with a rotating disk or plate, of a stationary disk or plate, a casing having a hinged or pivoted part on which said stationary disk or plate is mounted, and means for adjusting the said hinged or pivoted part transversely to the axis of the said rotating disk or plate.

4. In a grinding machine, the combination with a rotating disk or plate, of a stationary disk or plate, a casing having a hinged or pivoted part on which said stationary disk or plate is mounted, and a screw for positively adjusting the said hinged or pivoted part transversely to the axis of the said rotating disk or plate.

5. In a grinding mill, the combination with a rotating grinding disk or plate and a casing within which the same is mounted, of a door-like part closing the end of the chamber formed by the said casing and mounted on a vertical hinge or part so as to swing horizontally, said door-like part having a horizontally extending arm overlapping said casing, a stationary grinding disk or plate mounted on said door-like part, and a screw tapped in said arm and abutting against said casing for adjusting the said door-like part vertically on its hinge or pivot for the purpose of varying the eccentricity of the said stationary disk or plate relative to the said rotating disk or plate.

In testimony whereof we affix our signatures, in presence of two witnesses.

THOMAS LEGGETT STURTEVANT.

THOMAS JOSEPH STURTEVANT.

Witnesses:

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