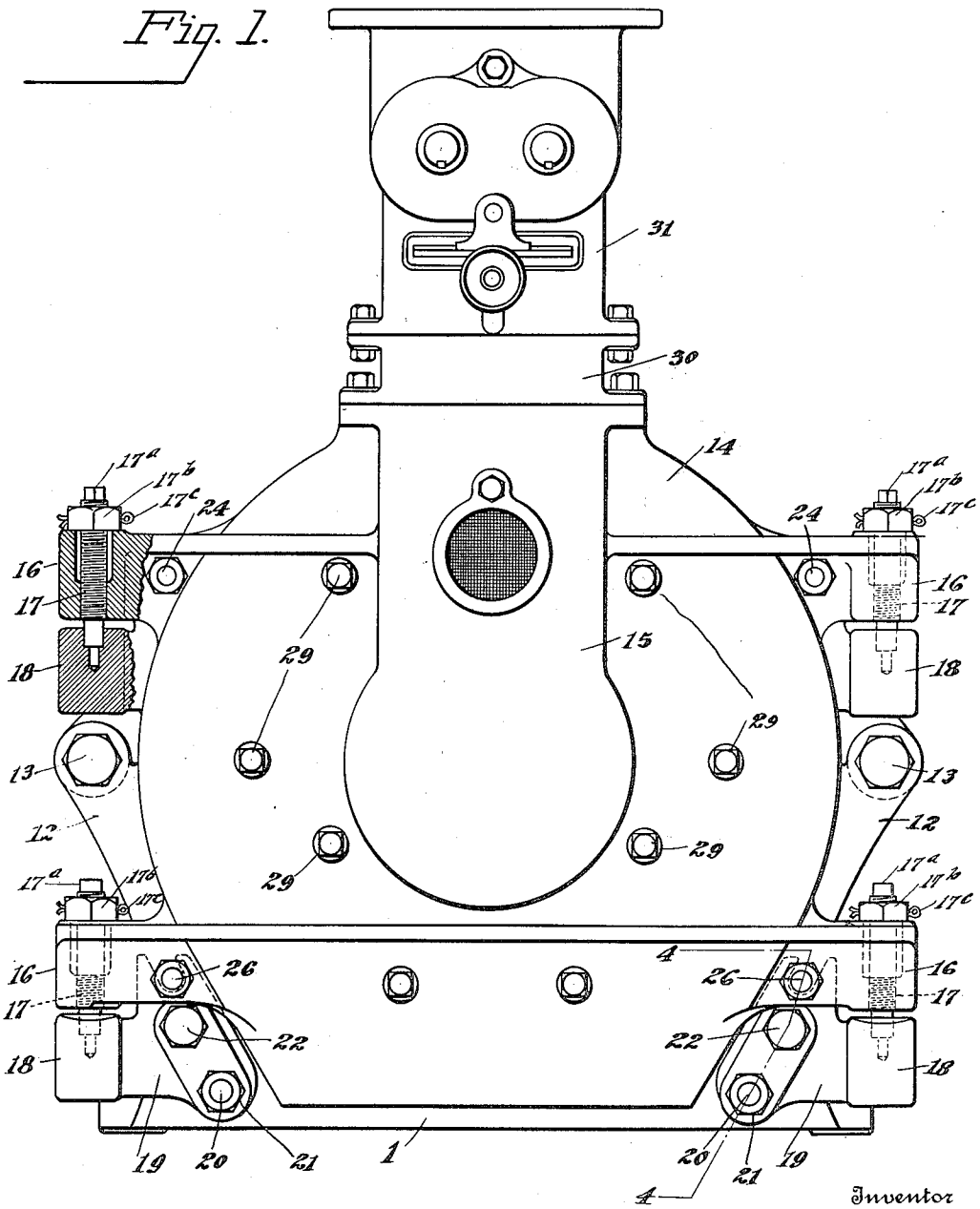
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A. P. DANIEL

ATTRITION MILL

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Fig. 1.



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Fig. 2.

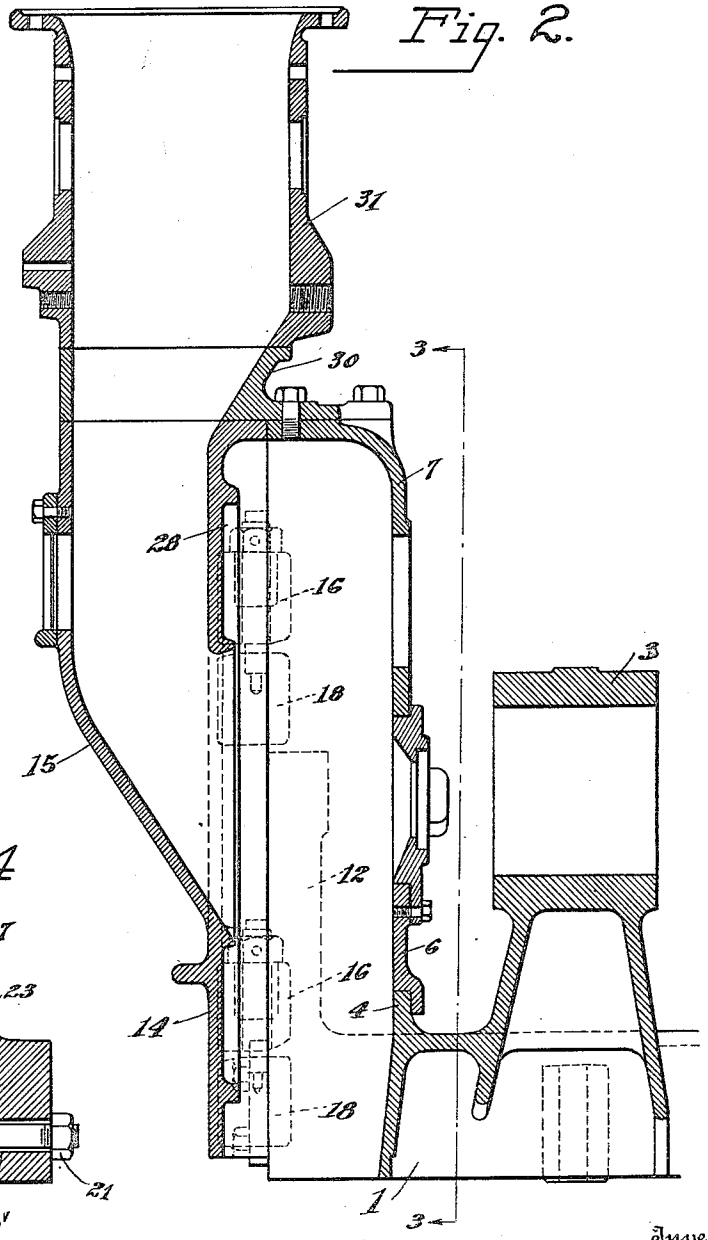
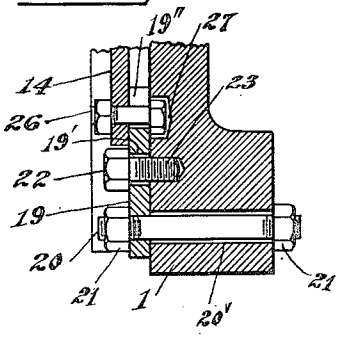


Fig 4



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Fig. 5.

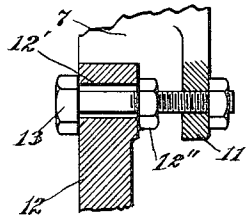


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALLAN P. DANIEL, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE BAUER BROTHERS COMPANY, OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO.

ATTRITION MILL.

Application filed April 17, 1922. Serial No. 554,109.

To all whom it may concern:

Be it known that I, ALLAN P. DANIEL, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Attrition Mills, of which the following is a specification.

My invention relates to improvements in attrition mills, it particularly relating to what is known as the single disk type of mill in which one of the grinding heads is stationary.

The object of my invention is to provide means for supporting the stationary grinding head in such a fashion that the head may be adjusted to bring it in proper concentric and facial alignment with the movable grinding head and also so that access may be readily secured thereto.

A further object of my invention is to improve the casing structure for the grinding members.

In the accompanying drawings:

Fig. 1 is an end view with a part thereof broken away and shown in section of a machine embodying my improvements.

Fig. 2 is a vertical sectional view with the grinding members removed.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a section on the line 4—4 of Fig. 1.

Fig. 5 is a section on the line 5—5 of Fig. 3.

Referring to the drawings, 1 represents the base of the structure having integrally formed therewith the bearing housing for the shaft 2 of the movable grinding head (not shown) one of which housings is indicated at 3. The base also has integrally formed therewith a wall 4 with a semi-circular recess formed therein. Secured to the edge of the recessed portion of the wall by bolts 5 is a semi-circular plate 6. A casing member 7 has lugs 7^a which are secured to lugs 8 on the wall 4 and lugs 9 on the plate 6 by bolts 10. The casing member also has ears 11 which are secured to ears 12 on the wall by bolts 13. Each of the ears 12 has an enlarged opening 12′ through which the bolt passes and the bolt is clamped to the ear by a nut 12″ thereon; the bolt being threaded into the ear 11. By this arrangement the pivot bolts 13 for the casing member 7 may be fixed in the proper position in the ears 12 to properly position the casing members 7 laterally and longitudinally with respect to the supporting base, and in this connection it should be explained that the openings in the ears or lugs which receive the bolts 10 are sufficiently enlarged to permit of this adjustment.

The outer side of this casing member is closed by a laterally swingable casing member 14 having formed as an integral part thereof a feed spout 15. This casing member 14 is hinged at both sides so as to be opened in either direction. It has a pair of bosses 16, on each side thereof, in each of which is threaded a hinge stud 17, the lower plain end of which is journaled in a boss 18. The upper bosses 18 are cast integrally with the casing member 7, while the lower bosses 18 are formed on brackets 19, which are secured to the base 1 by the rods 20 threaded at each end to receive nuts 21, and also by cap-screws 22 which screw into openings 23 in the base, and pass through enlarged openings 19′ in the brackets.

The casing member 14 is secured rigidly in position by T-bolts 24 which project through the slotted openings 25 in the casing member 7 and is also secured by bolts 26 with the brackets 19; the heads of the bolts 26 being located in recesses 27 in the base, and with the bolts projected through forked extensions 19″ on the brackets and apertures in the casing member. The slotted openings 25 are wider than the diameters of the bolts 24, and the recesses 27 are larger than the heads of the bolts 26 to permit of the adjustment hereinafter described.

The casing member 14 has its inner face formed with a circular finished channel 28 arranged concentric to the axis of rotation of the driving shaft 2, when the casing member is in proper adjusted position, and in this channel is secured by bolts 29 the stationary grinding head, which is not shown but which is of any usual construction.

In assembling the structure, the casing member 7 and the brackets 19 are adjusted to position the supporting bosses 18 for the proper lateral and longitudinal positioning of the member 14, while by adjusting the studs 17 the member 14 may be positioned correctly in a vertical direction. By this adjustment I am thus enabled to bring the grinding plates in proper facial and axial alignment.

When the proper adjustment is secured a nut 17^b is threaded on each of the studs until it contacts with the upper side of the associated boss and in this position is secured to the stud by a cotter pin 17^c. In the event that it is desired to open the casing member 14, this may be accomplished by removing the bolts 26 and 24 and unscrewing the studs 17 on one side thereof so that the casing may swing about the studs on the opposite sides as pivots. When the studs 17 are thus unscrewed the nuts at 17^b turn with the studs so that they may act as gauges when the studs are screwed back to their original position.

Having thus described my invention, I claim:

1. In a machine of the character described, a casing, a single grinding head supporting wall, means for hinging said wall to said casing whereby it may be opened at either side of said casing, and means for adjusting said wall vertically in its relation to said casing.

2. In a machine of the character described, a casing, a single movable grinding head supporting wall hinged at both sides so as to be capable of swinging outwardly in either direction, and adjusting devices for adjusting said wall vertically, for the purpose specified.

3. In a machine of the character described, a casing having a single grinding head supporting wall hinged at both sides so as to swing outwardly in either direction, and means for adjusting the hinges at both sides of said wall to raise or lower same, for the purpose specified.

4. In a structure of the character described, a base having a recessed end wall of semi-circular shape, a semi-circular plate secured to said wall, a casing section secured to said plate and wall, said wall, plate and section forming the ends, top and one side of the casing, and a hinged member forming the opposite side of said casing.

5. In a machine of the character described, a casing member, a base member of semi-circular shape, means for supporting said casing member on said base member, and means for adjusting said casing member longitudinally in its relation to said base member, and means for laterally adjusting said casing member for the purpose specified.

6. In a machine of the character described, a casing member having a movable grinding head supporting wall, hinged supports on said casing, hinged members on said wall, means for laterally and longitudinally adjusting said casing member, and means for vertically adjusting said hinged member, for the purpose specified.

7. In a machine of the character described, a base, a casing member supported by said base, hinge supports on said casing member and base, means for adjusting the casing and also adjusting the base hinge supports in a lateral direction, and a movable wall hinged to said supports.

8. In a machine of the character described, a base, a casing member supported by said base, hinge supports on said casing and base, a movable wall, hinge members connecting said wall to said supports, means of laterally adjusting the casing member and also the hinge supports on said base, and means for vertically adjusting the hinge members.

In testimony whereof, I have hereunto set my hand this 27th day of March 1922.

ALLAN P. DANIEL.