

No. 840,162.

PATENTED JAN. 1, 1907.

G. E. RUDNICK.
PULLEY FOR PULVERIZING MILLS.

APPLICATION FILED AUG. 13, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

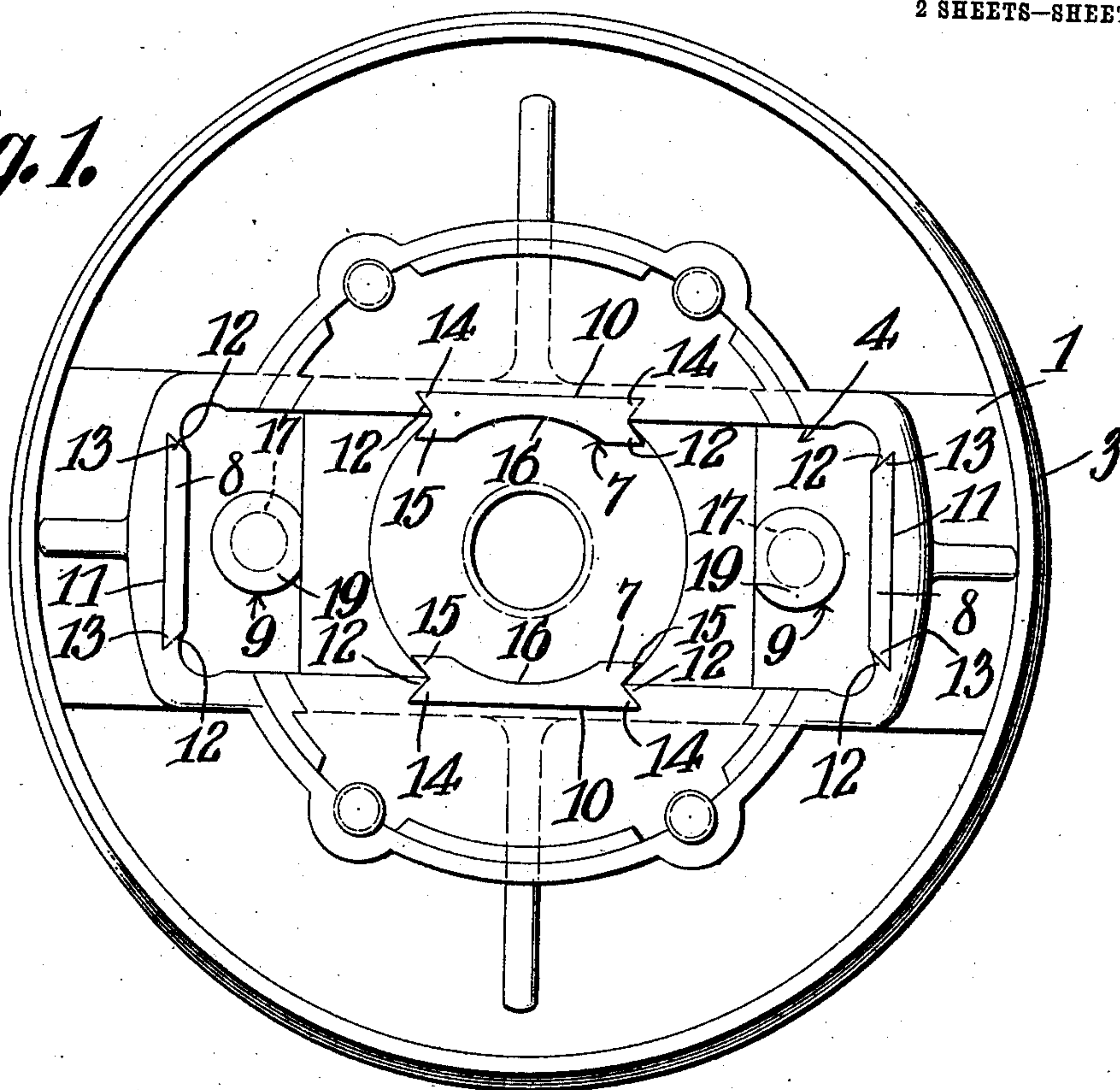


Fig. 4.

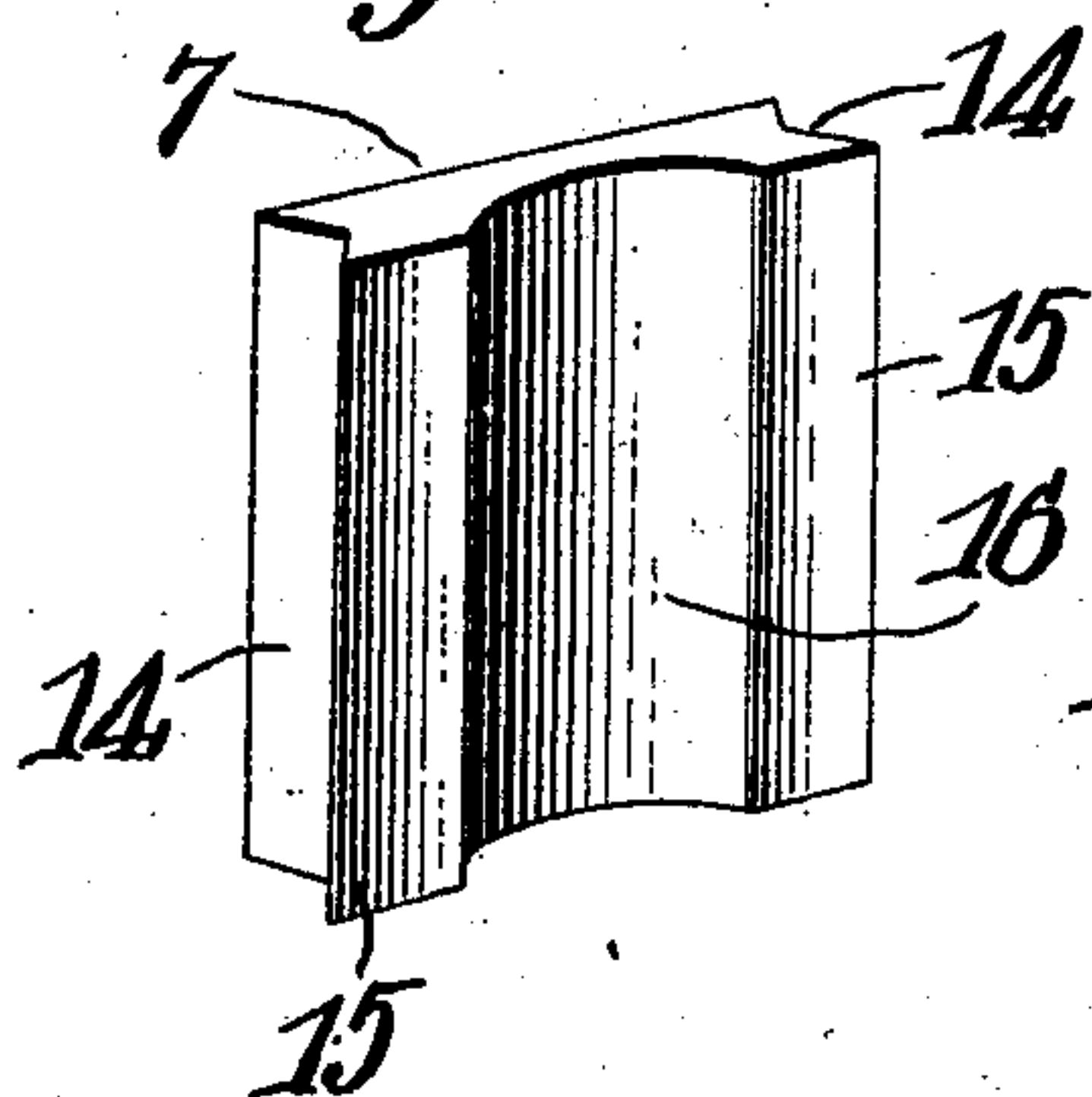


Fig. 5.

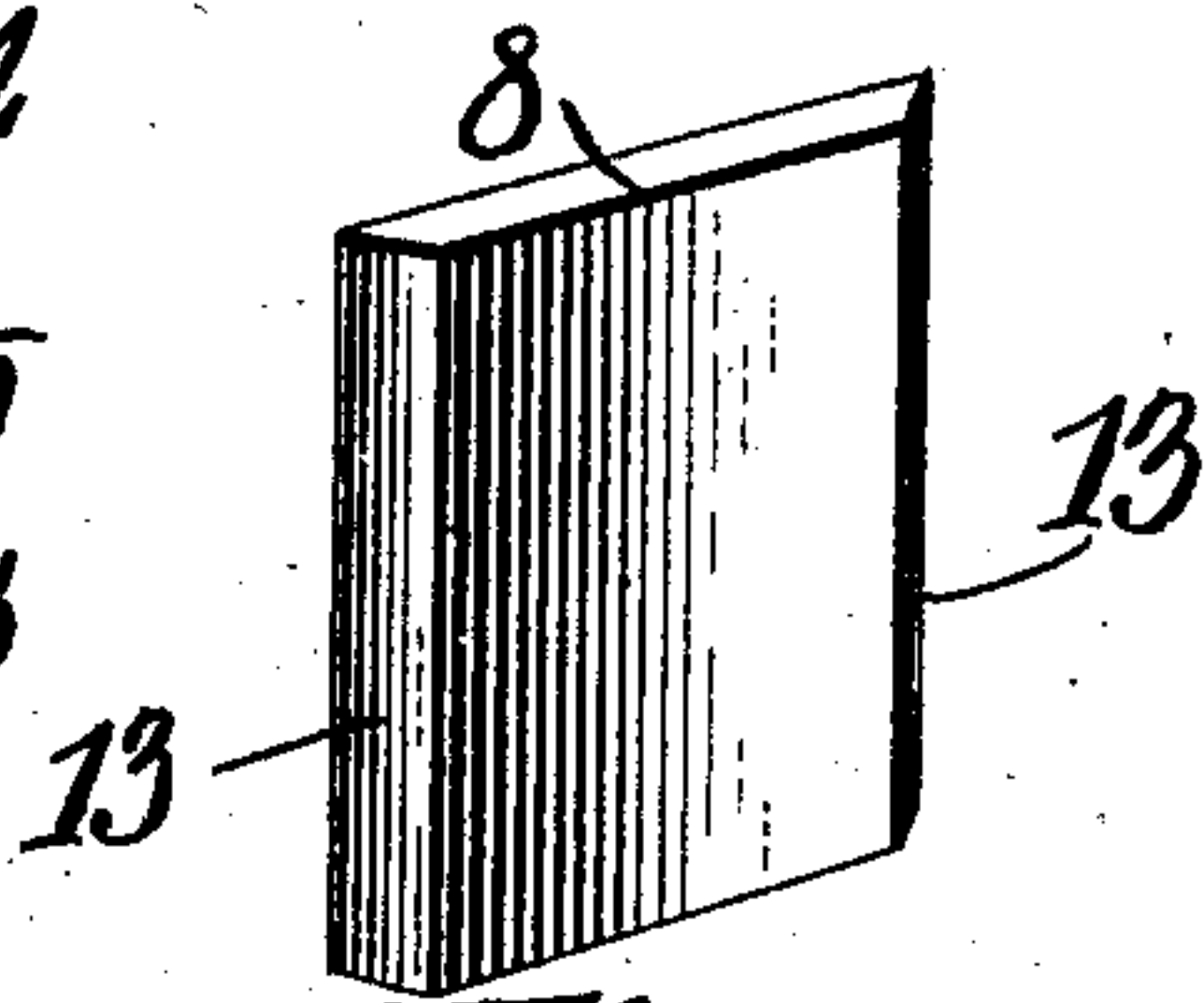
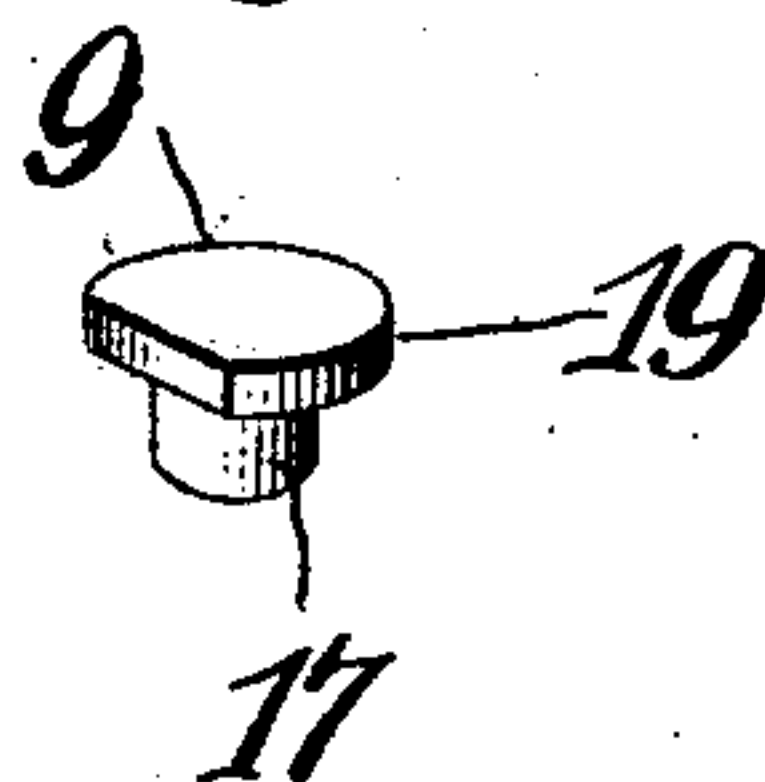


Fig. 6.



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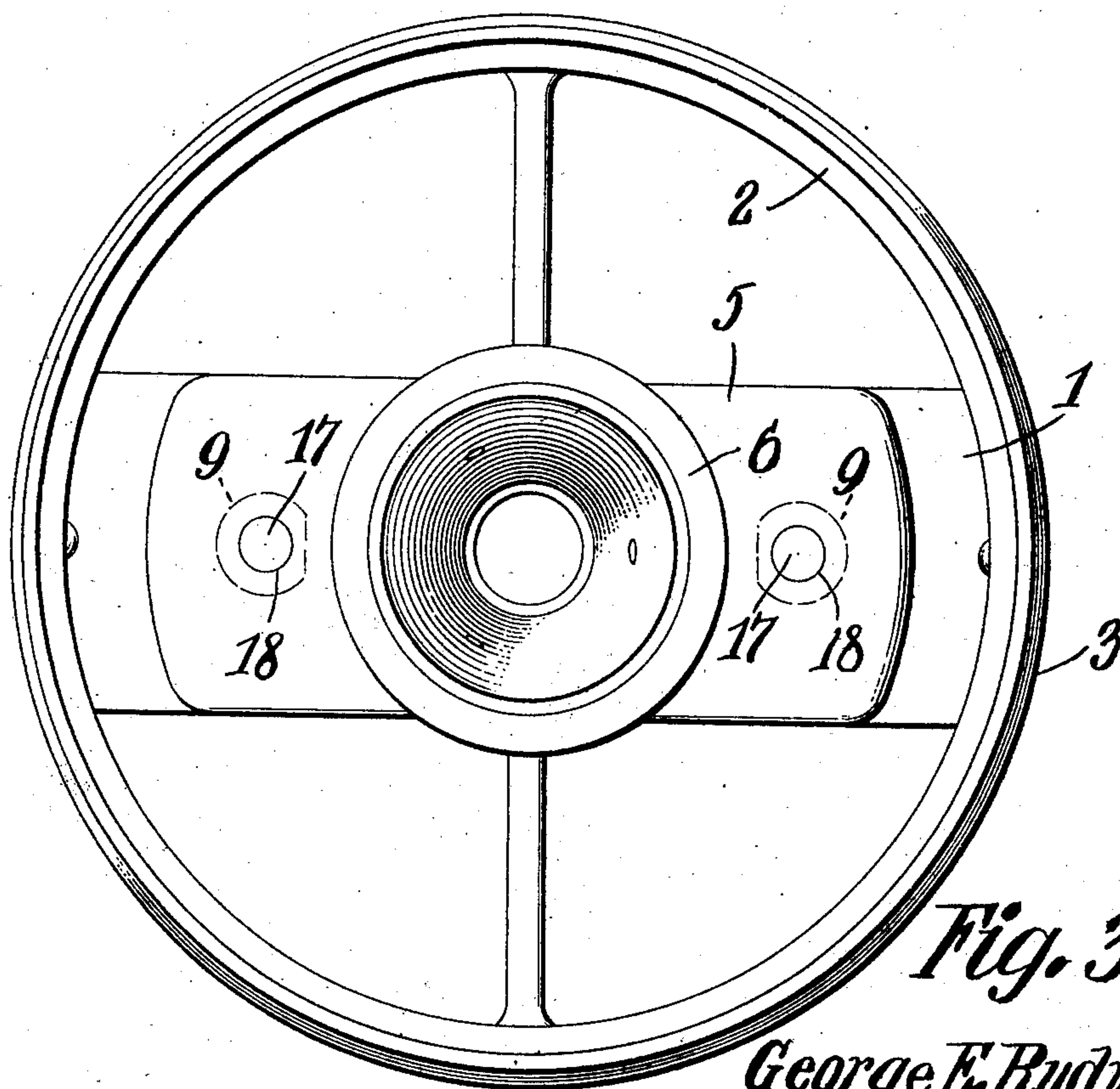
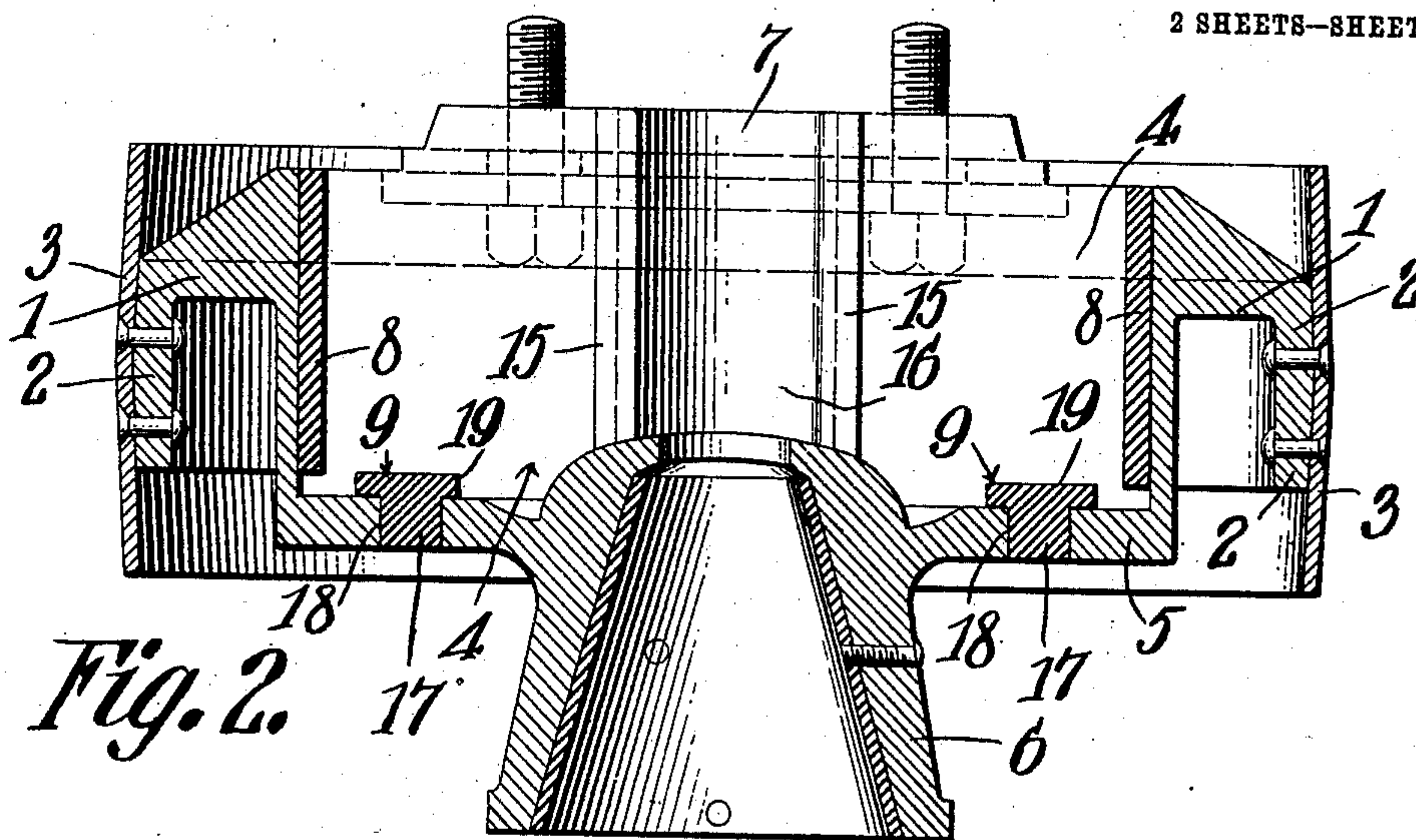
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGE E. RUDNICK, OF IOLA, KANSAS.

PULLEY FOR PULVERIZING-MILLS.

No. 840,162.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed August 13, 1906. Serial No. 330,409.

To all whom it may concern:

Be it known that I, GEORGE E. RUDNICK, a citizen of the United States, residing at Iola, in the county of Allen and State of Kansas, have invented a new and useful Pulley for Pulverizing-Mills, of which the following is a specification.

This invention relates to pulleys designed more especially for use in connection with pulverizing-mills of that type wherein a pendent centrifugally-acting roll-carrying shaft is suspended on a ball mounted in the pulley and rotated therewith. As usually constructed these pulleys are subject to rapid wear and are practically incapable of being repaired, so that as a consequence the pulleys have to be frequently replaced by new ones and the old pulleys scrapped. The pulleys are therefore a large item of expense in the up-keep of a pulverizing-mill.

The principal object of this invention is to overcome these difficulties by providing a pulley of simple and inexpensive construction that can be repaired, or the parts renewed as they become worn, with great facility, thus rendering the pulley more durable and reducing the cost of maintenance.

A further object is the provision of renewable wearing members arranged in the body of the pulley so as to receive the wear from the shaft supporting and driving means housed in the pulley-body.

With these objects in view and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter, and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one of the embodiments of the invention, Figure 1 is a plan view of the pulley with the top removed. Fig. 2 is a central vertical section thereof. Fig. 3 is a bottom plan view. Fig. 4 is a perspective view of one of the wearing-plates with which the shaft-suspending ball engages. Fig. 5 is a perspective view of one of the end wearing-plates. Fig. 6 is a similar view of one of the bottom wearing members.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

Referring to the drawings, 1 designates the web of the pulley, 2 the rim thereof, and 3 the crowned ring, around which the driving-

belt of the mill is adapted to run. At the center of the pulley the web 1 is provided with a rectangular or box-like chamber 4 for receiving the shaft-suspending ball and mechanism associated therewith for gyrating the roll-carrying shaft according to the usual construction. From the bottom 5 of the chamber 4 depends a thimble-like journal-bearing 6, whereby the pulley is rotatably mounted on a suitable supporting-frame for the mill. The roll-carrying shaft extends freely through the bearings 6, and the suspending-ball therefor is confined between the side bearing members or plates 7. The ends of the chamber 4 accommodate the usual journals on the suspending-ball and the gibs or other devices associated with the journals, according to the usual construction.

In order to take the wear produced by the operating parts of the apparatus that are arranged in the ends of the chamber 4, end bearing members 8 and bottom wearing members 9 are provided.

The several wearing members may be secured in place to the body of the pulley in any desired manner, preferably, however, in such a way as to permit of their ready removal when they become worn, so that new ones can be substituted. According to the preferred form the side and end plates 7 and 8 are held in grooves 10 and 11, provided, respectively, in the side and end walls of the chamber 4. The grooves are formed with overhanging end walls 12, so as to shape them as dovetails. The plates 7 and 8 are beveled along their edges so as to engage with the overhanging walls of the grooves and to be securely held in the latter. The grooves extend vertically, so that when the top or cover of the pulley is removed the plates can be slid out of the groove by an upward movement. The end plates 8 are beveled at their edges 13 from the front to the rear surfaces. The plates 7, however, are each provided with a V-shaped groove 14, whereby the shoulders for engaging with the overhanging walls of the retaining-groove 10 are formed and also the flaring portions or shoulders 15, that extend beyond the side walls of the chamber 4. According to the usual construction the portions 15 are integral with the side walls of the chamber, and as these portions are often chipped or cracked off by use the effective engagement between the shaft-suspending ball and the said portions becomes impaired, so that a new pulley has to

be substituted. The front faces of the plates 7 are concaved at 16 in conformity to the curvature of the shaft-suspending ball, and with these concaved surfaces the ball directly engages. The wearing members 9 closely resemble in construction rivets, whose shanks 17 are received in apertures 18 in the bottom 5 of the pulley. The head portion 19 of each member 9 is disposed in the chamber 4 and is adapted to receive the wear. These members may be held in their respective apertures by friction or otherwise, as desired.

From the foregoing description, taken in connection with the accompanying drawings, it is believed that the advantages of the construction will be readily appreciated by those skilled in the art to which the invention appertains, so that further description is thought unnecessary.

What is claimed is—

1. A pulley for a pulverizing-mill comprising a rectangular chamber having vertical grooves in its ends and central vertical grooves in its sides provided with overhang-

ing walls, and removable bearing-plates having their edges shaped to interlock with the walls of the grooves and removable in a direction longitudinal of the grooves.

2. A pulley for a pulverizing-mill comprising a rectangular chamber having vertically-extending grooves in its side and end walls, said grooves being provided with overhanging walls, and plates having their edges shaped to interlock with the overhanging walls for removably holding the plates in position.

3. A pulley for a pulverizing-mill comprising a body formed with a box-shaped chamber and having apertures in its bottom, and removable wearing devices arranged in the said apertures.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE E. RUDNICK.

Witnesses:

F. L. WOODS,

A. L. WILCOX.