

(No Model.)

D. D. MANGUM.
JOURNAL BEARING.

No. 452,646.

Patented May 19, 1891.

Fig. 1.

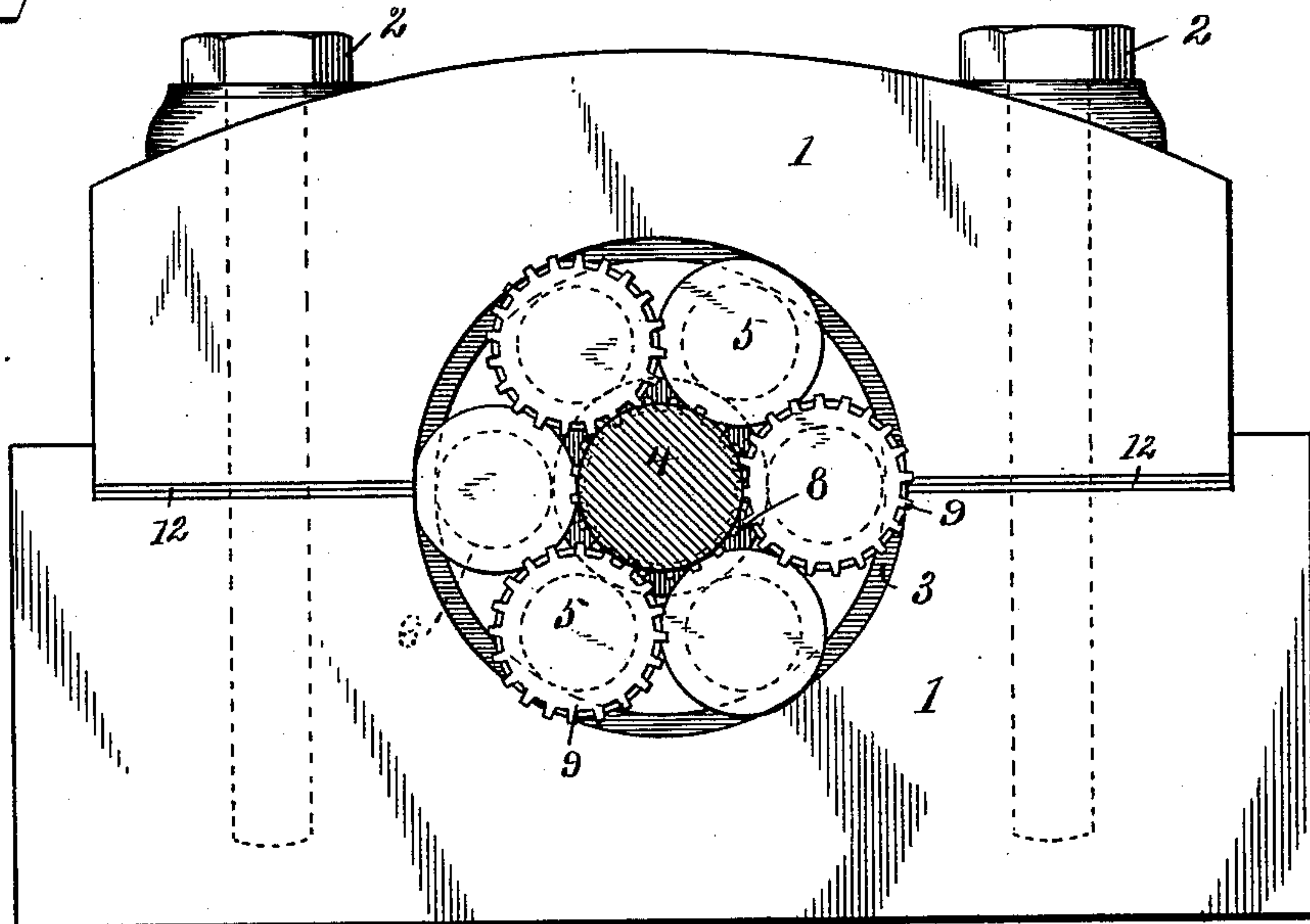


Fig. 3.

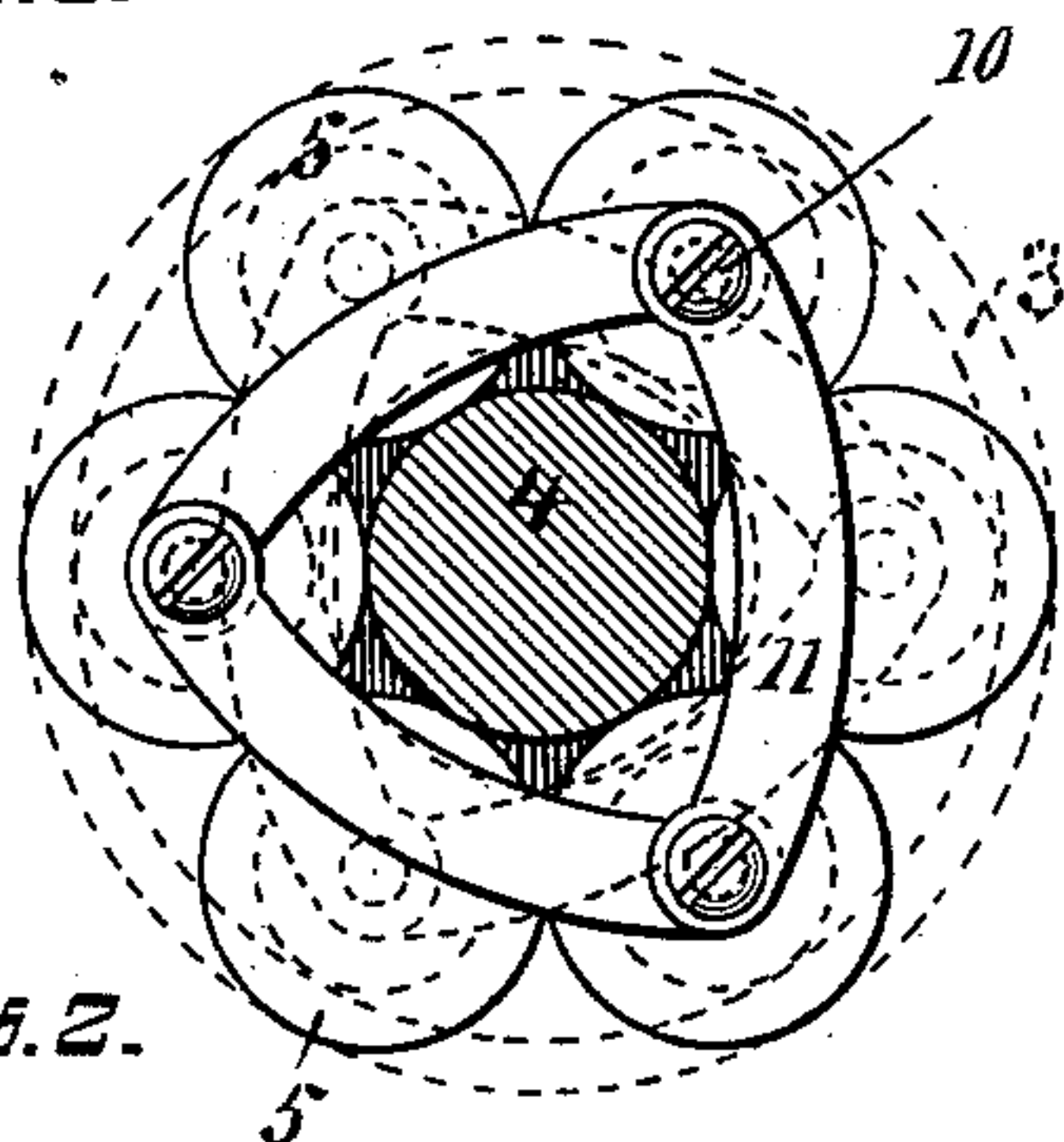


Fig. 4.

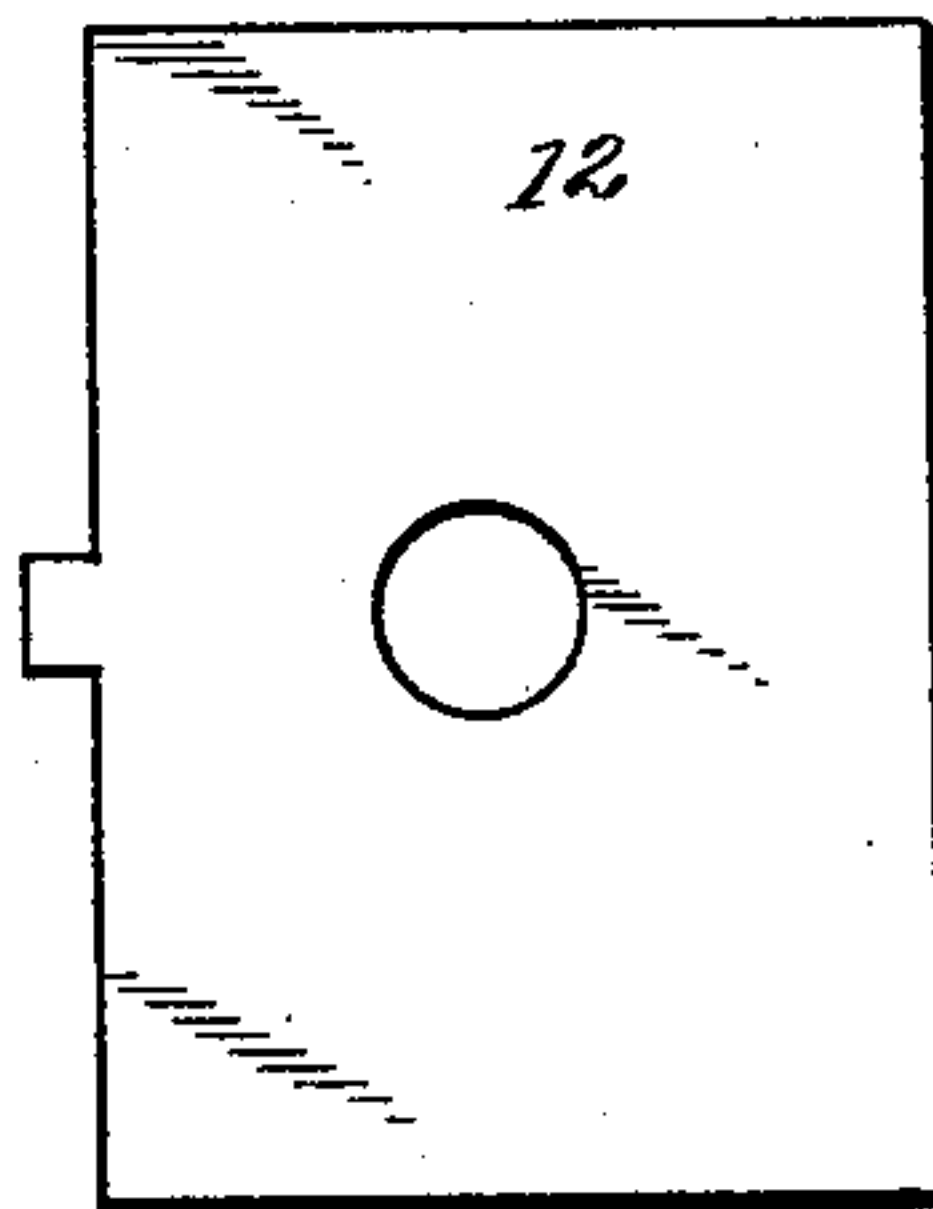
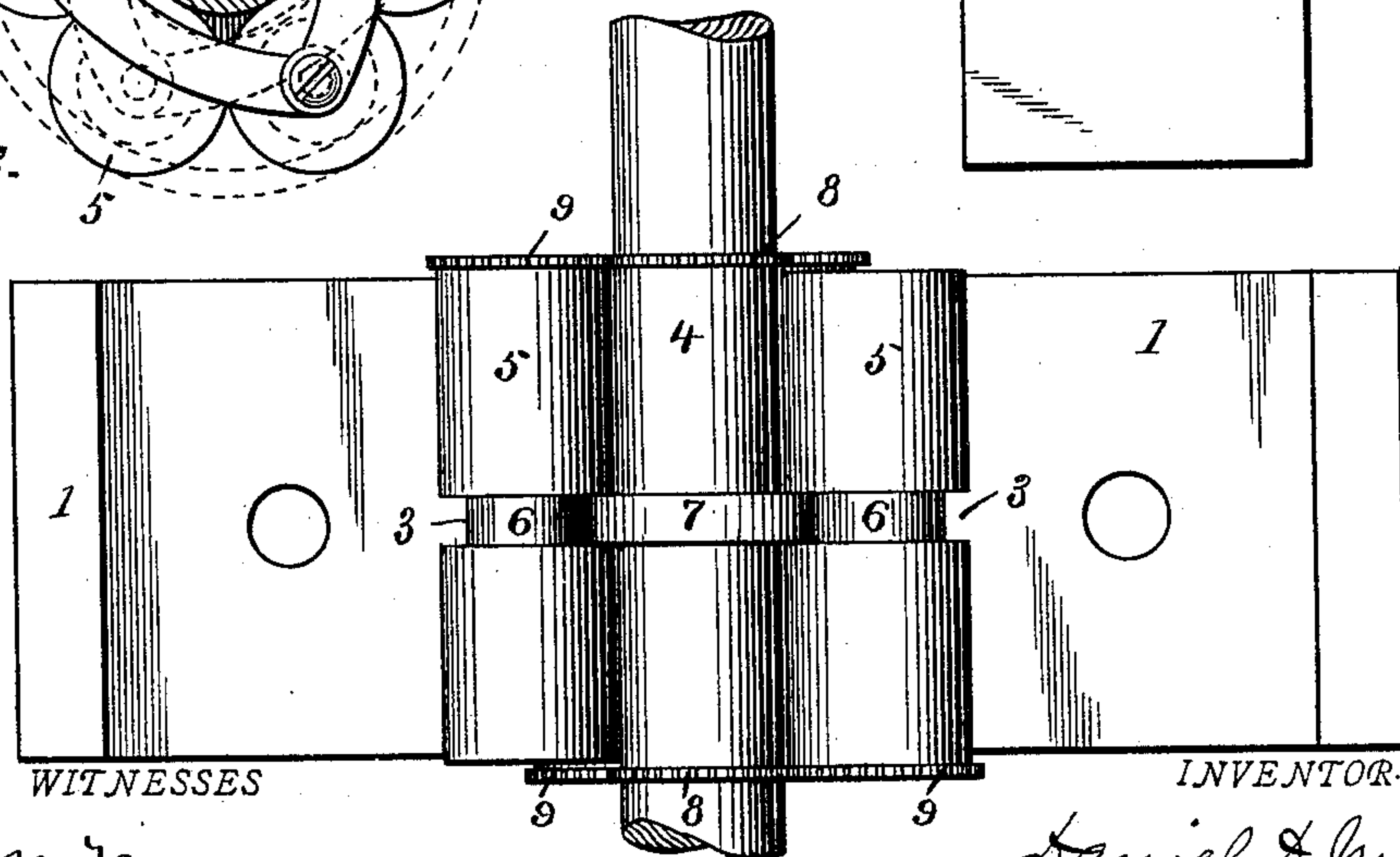


Fig. 2.



WITNESSES

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JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 452,646, dated May 19, 1891.

Application filed November 10, 1890. Serial No. 370,933. (No model.)

To all whom it may concern:

Be it known that I, DANIEL D. MANGUM, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Journal-Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce an anti-friction bearing which shall be simple, practical, and durable, and in which the cost of construction shall be reduced to the minimum.

With these ends in view I have devised the simple and novel construction which I will now describe, referring by numerals to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my novel journal-bearing; Fig. 2, a plan view corresponding with Fig. 1; Fig. 3, a detail end view showing a slightly different mode in which I have carried my invention into effect; and Fig. 4 is a view of one of the adjusting-plates detached.

The essential principles of my invention are, first, the use of six anti-friction rollers of the exact diameter of the journal, and, second, the use in connection therewith of suitable means for connecting alternate rollers at opposite ends of the bearing.

1 denotes the box, which is made in two parts in the usual or any preferred manner. The parts of the box are shown as held together by bolts 2. On the inner side of both parts of the box is a circular rib 3.

4 denotes the journal, and 5 anti-friction rollers surrounding it. These rollers are six in number and are made the exact diameter of the journal, so that the journal and rollers just fill the box, each roller being in contact with the journal and with two other rollers and the box being of just suitable size to receive the journal and the rollers. Each of the rollers is provided with a groove 6 and the journal with a rib 7, the groove 6 of the rollers being engaged by the circular rib 3 on the parts of the box and by the rib 7 on the

journal, so that all of the parts are held firmly against endwise movement. I have found in practice that this feature of using six rollers of the same diameter as the journal is very important; and I have found, furthermore, that it is desirable additionally to connect alternate rollers at the opposite ends of the box. This I have accomplished in practice in two modes, either of which modes may be used at both ends of the box, or the two modes may be employed at opposite ends of the same box.

In Figs. 1 and 2 I have shown the journal as provided at opposite ends with gear-teeth 8, and three alternate rollers at each end provided with gears 9—that is to say, three rollers at each end are provided with gears, the others being left plain, which is just reversed at the opposite end of the box, the gears at that end of the box being placed on rollers not having gears at the other end of the box. If preferred, however, the gears may be dispensed with on both journal and rollers, a trunnion 10 being provided at one end of each roller, the trunnions alternating, as in the other form, and alternate rollers being connected at each end by links 11, engaging the trunnions, the alternate rollers not engaged at one end being engaged at the other end, as indicated by dotted lines in Fig. 3. I have found in practice that it works admirably to connect the journal and rollers at one end by means of the gears 8 and 9, and to connect the rollers at the opposite ends by means of links, as shown in Fig. 3.

12 denotes adjusting-plates, which I preferably place between the two parts of the box, so that lost motion, should any occur in use, may be readily taken up by removing one or more of the plates. These plates are provided with projections corresponding with ribs 3, which engage the grooves in the rollers and with holes through which the bolts pass.

Having thus described my invention, I claim—

1. The combination, with a journal and a box of suitable construction, of six rollers within the box of even diameter with the journal, and connections between alternate rollers at each end of the box, the rollers con-

nected at one end being disconnected at the opposite end.

2. The combination, with a journal having gear-teeth 8, and a box of suitable construction, of six rollers within the box of even diameter with the journal, three rollers at each end of the box being provided with gears 9, which engage the gear-teeth on the journal,

the rollers connected at one end being disconnected at the opposite end. 10

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

DANIEL D. MANGUM.

Witnesses:

CARROLL D. RYDER,
LEVI P. TREADWELL.