

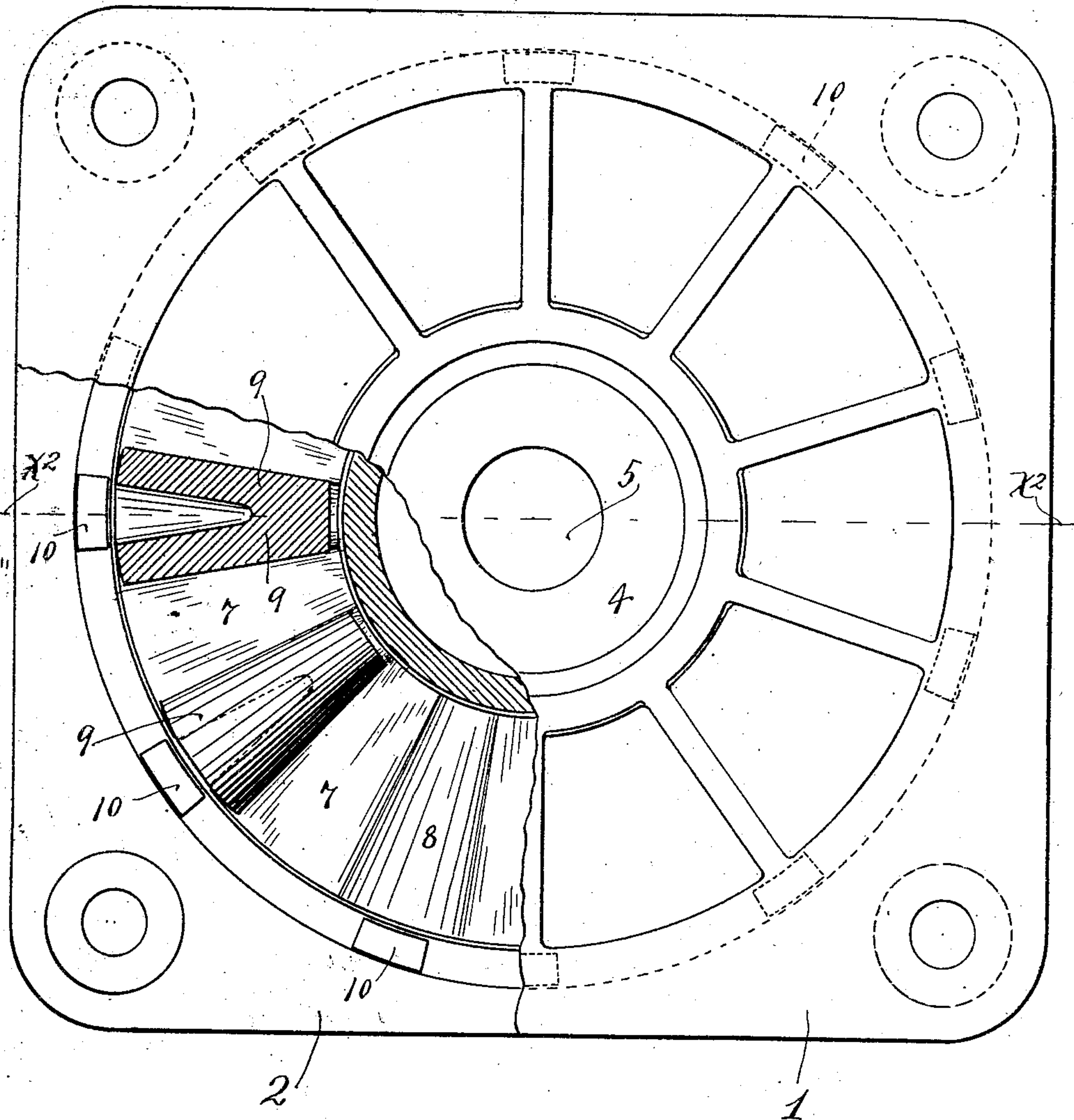
No. 779,573.

PATENTED JAN. 10, 1905.

J. C. BARBER.  
CENTER BEARING.  
APPLICATION FILED DEC. 21, 1903.

2 SHEETS—SHEET 1.

*Fig. 1.*



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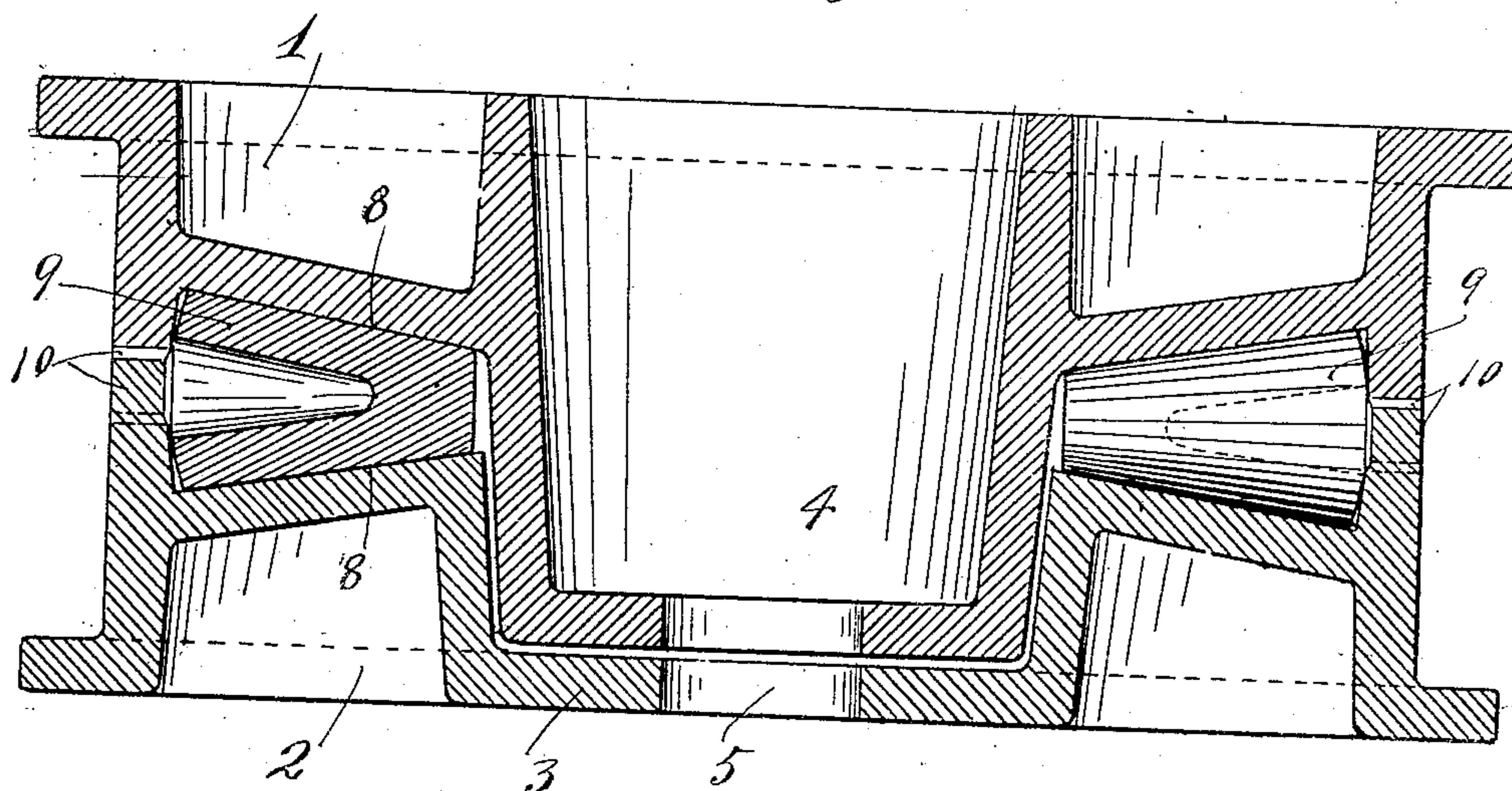
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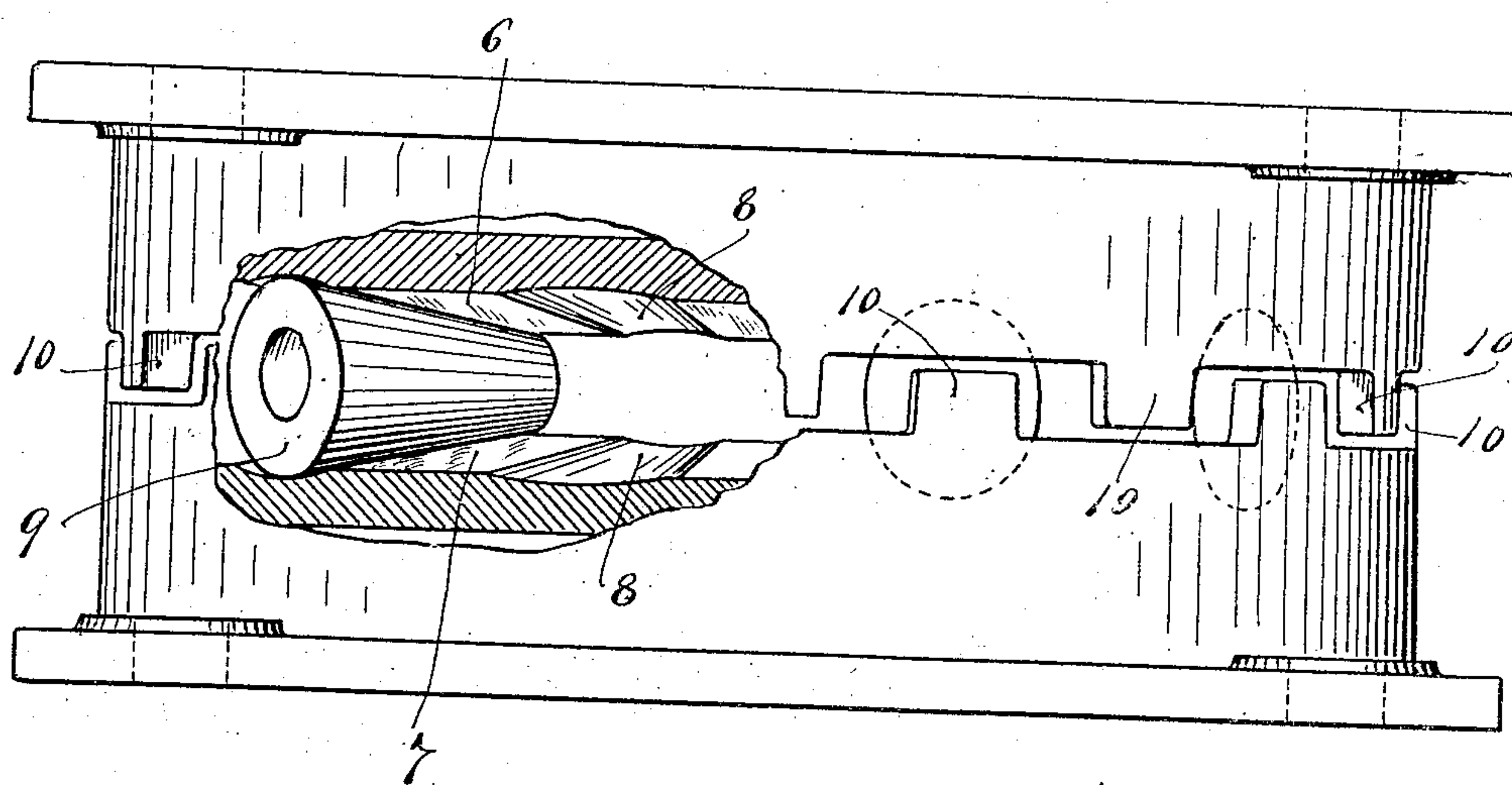
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2 SHEETS—SHEET 2.

*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JOHN C. BARBER, OF CHICAGO, ILLINOIS.

## CENTER-BEARING.

SPECIFICATION forming part of Letters Patent No. 779,573, dated January 10, 1905.

Application filed December 21, 1903. Serial No. 186,139.

*To all whom it may concern:*

Be it known that I, JOHN C. BARBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
5 invented certain new and useful Improvements in Center-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  
10 to make and use the same.

My present invention has for its object to provide an improved center-bearing for cars, "cars" being used in a broad sense to include engines and tenders.

15 To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view, with some parts broken away, showing the improved center-bearing. Fig. 2 is a transverse vertical section  
25 through the center-bearing on the line  $x^2 x^2$  of Fig. 1; and Fig. 3 is a side elevation of said center-bearing, some parts being broken away.

The numeral 1 indicates the upper member, and the numeral 2 the lower member, of the  
30 improved center-bearing, which members are adapted to be bolted or otherwise rigidly secured, the former to the body of the car, or rather to the bolster thereof, and the latter to the truck-bolster. The member 2 has a central depressed portion 3 and the upper member 1 has a hub portion 4, which fits loosely within the said depressed portion 3 and holds the two members for true pivotal movements on a vertical axis. The portions 3 and 4  
40 have alined passages 5, through which a pin-  
tle or king-bolt (not shown) is adapted to be passed. Outward of the hub 4 the members 1 and 2 are formed with annular beveled roller-bearing surfaces 6 and 7, respectively,  
45 and these bearing-surfaces are formed with radially-disposed concave roller-seats 8. The concave roller-seats 8 converge toward the axis of the bearing and are adapted to receive between them—that is, between the upper and  
50 lower vertically-alined seats—conical bear-

ing-rollers 9. The rollers 9 are of course tapered to fit the vertical flare of the beveled roller-seats 8, but the said seats 8 in cross-section have a curve which is of course much greater than the peripheral curve of the rollers. These seats hold the rollers properly  
55 spaced.

The bearing members 1 and 2 are formed just outward of the bearing-surfaces 6 and 7 with annular flanges, the edges of which are  
60 notched to afford a plurality of interlapping lugs or flange-sections 10. The flange-sections 10 engage with the outer ends of the rollers 9 and maintain them in working positions. There is sufficient clearance between  
65 the interlapping lugs or flange-sections 10 of the two members 1 and 2 to permit the maximum required pivotal movement of the one member with respect to the other. The said lugs will engage as stops to prevent too great  
70 pivotal movements of the said members.

With the center-bearing above described when a car strikes a curve and the trucks are caused to move pivotally on their center-bearings the lower members 2 of the center-bearing will of course be moved pivotally with  
75 respect to their cooperating upper members 1, and such movements of course carry the corresponding upper and lower roller-seats 8 out of line with each other, so that the rollers  
80 are caused to run upon the shallower portions of said seats, and thereby raise slightly the upper center-bearing members, and the car-body to which they are attached. Such upward movement of the car-body would not be  
85 a perceptible one, and, in fact, instead of such movement as just described it might be that the lower bearing members 2 and the spring-supported truck-bolsters to which they would be applied would be moved downward. In  
90 any event, when the members of the center-bearing are moved pivotally one upon the other they are thrown slightly farther apart in a vertical direction, so that the weight of the load acting on the rollers and cooperating  
95 concave seats will tend to throw the said members pivotally backward to their normal intermediate positions, with the said rollers resting in the central and deepest portions of the said roller-seats. It will thus be seen that  
100



under the weight of the load on the center-bearing the concave seats 8, acting on the cooperating rollers 9, will tend to maintain the members of the center-bearing in a normal intermediate position, which is the position that they will occupy, or at least should occupy, when the trucks are on a straight track.

In brief, I have provided an antifrictional center-bearing which tends to maintain an intermediate position. This is the feature which I believe to be broadly new in a center-bearing. Hence it will be understood that I desire to claim this feature broadly.

From what has been said it will of course be understood that the said bearing described is capable of a large range of modification within the scope of my invention as herein set forth and claimed. Furthermore, the center-bearing is very strong, durable, and of comparatively small cost.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with upper and lower members of a center-bearing, both of which have radially-disposed circumferentially-concaved seats, of rollers interposed between the seats of said members and affording an anti-friction device, yieldingly maintaining said members in a predetermined rotary position with respect to each other, substantially as described.

2. The combination with the upper and lower members of a center-bearing, said members having radially-disposed and outwardly-flaring concave roller-seats, of conical rollers working between the corresponding upper and lower roller-seats, substantially as described.

3. In a center-bearing, the combination with the lower member 2, having the central depression 3, and beveled annular bearing-sur-

face 7, of the upper member 1, having the depressed hub 4, and beveled annular bearing-surface 6, said bearing-surfaces 6 and 7 having the cooperating upper and lower outwardly-flaring concave roller-seats 8, and the conical rollers 9 working between the corresponding upper and lower roller-seats 8, substantially as described.

4. In a center-bearing, the combination with upper and lower members thereof, having beveled roller-bearing surfaces, of conical rollers interposed between the bearing-surfaces of said two members, the said two members having interlapping marginal projections which serve to maintain said rollers in working positions, and engage with each other as stops to limit the pivotal movements of the said members with respect to each other.

5. The combination with the upper-bearing member 1, having the depressed hub 4 and beveled annular bearing-surface 6, of the lower member 2, having the depressed central portion 3 and beveled annular surface 7, said bearing-surfaces 6 and 7 having the concaved roller-seats 8, of the conical rollers 9, working between the corresponding upper and lower roller-seats 8, said members 1 and 2 further having the notched peripheral flanges, the lugs 10 of which interlap so that they cooperate as stops to limit the pivotal movements of the said members 1 and 2, and serve further to hold said rollers 9 in working positions, substantially as described.

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

JOHN C. BARBER.

Witnesses:

L. W. BARBER,

A. M. LOVE.