

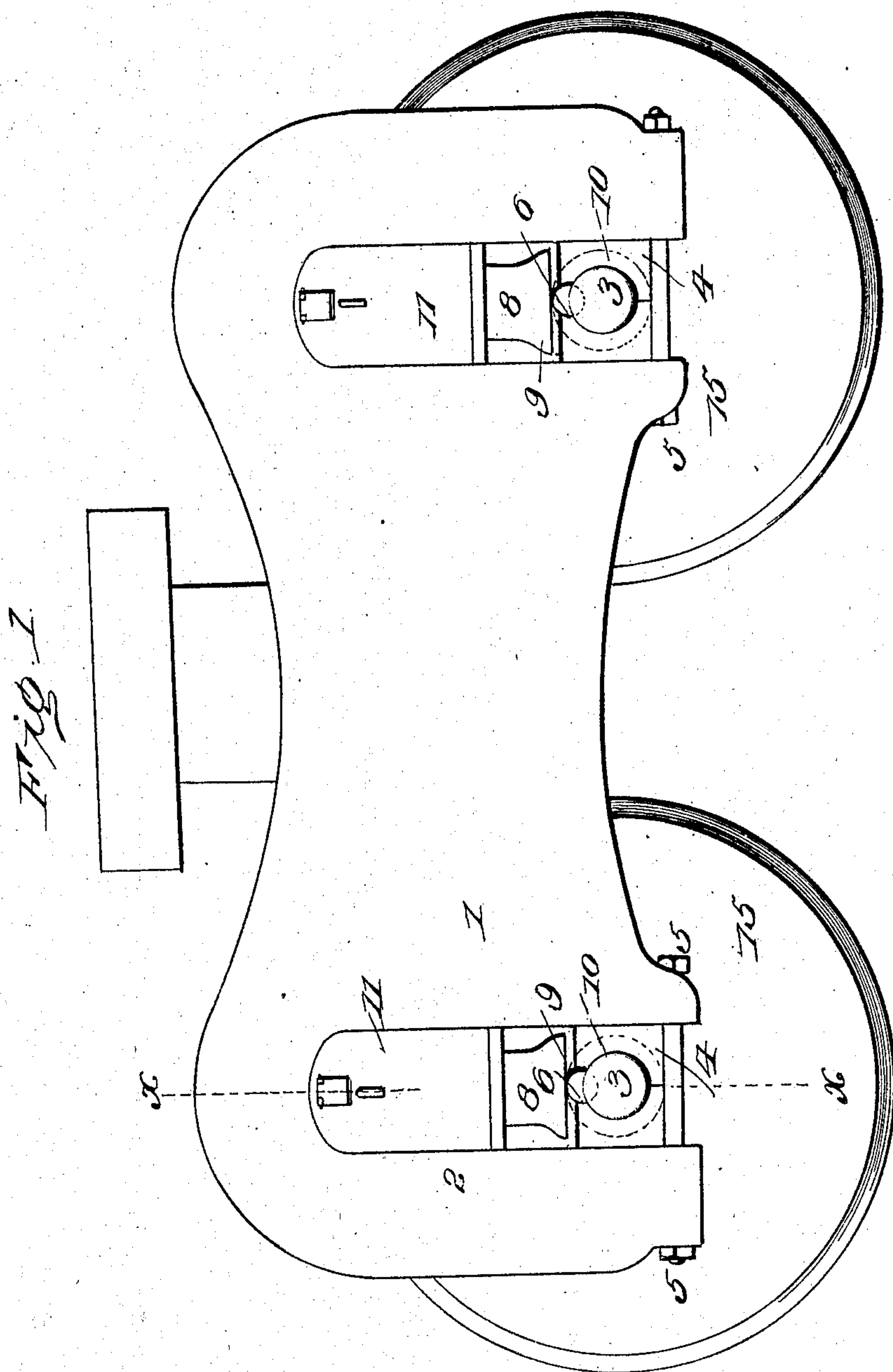
No. 815,469.

PATENTED MAR. 20, 1906.

C. V. RANDOLPH.
JOURNAL BEARING.

APPLICATION FILED JULY 14, 1905.

2 SHEETS—SHEET 1.



Inventor

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Witnesses

Witnesses
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2 SHEETS—SHEET 2.

Fig. 2.

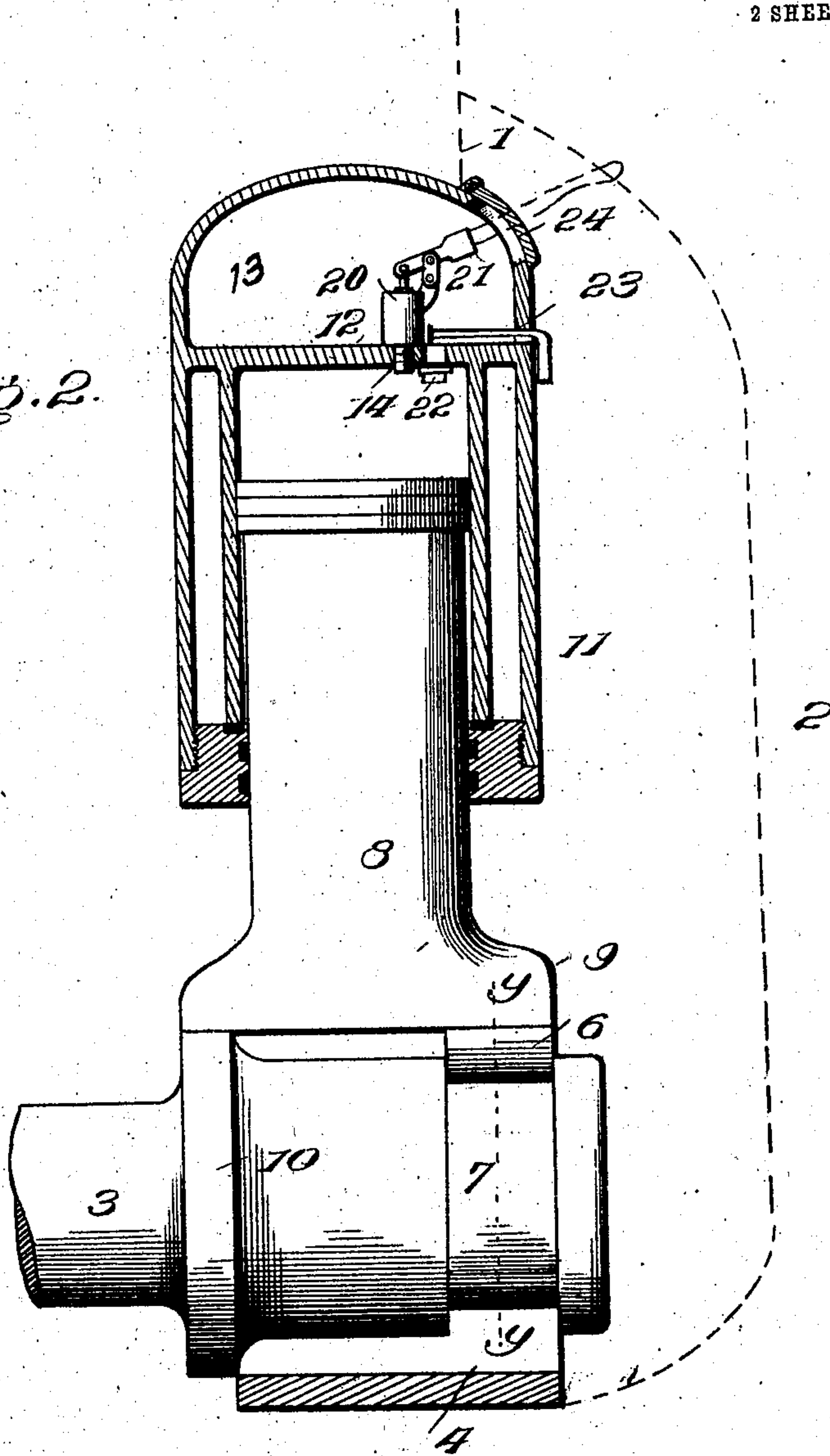
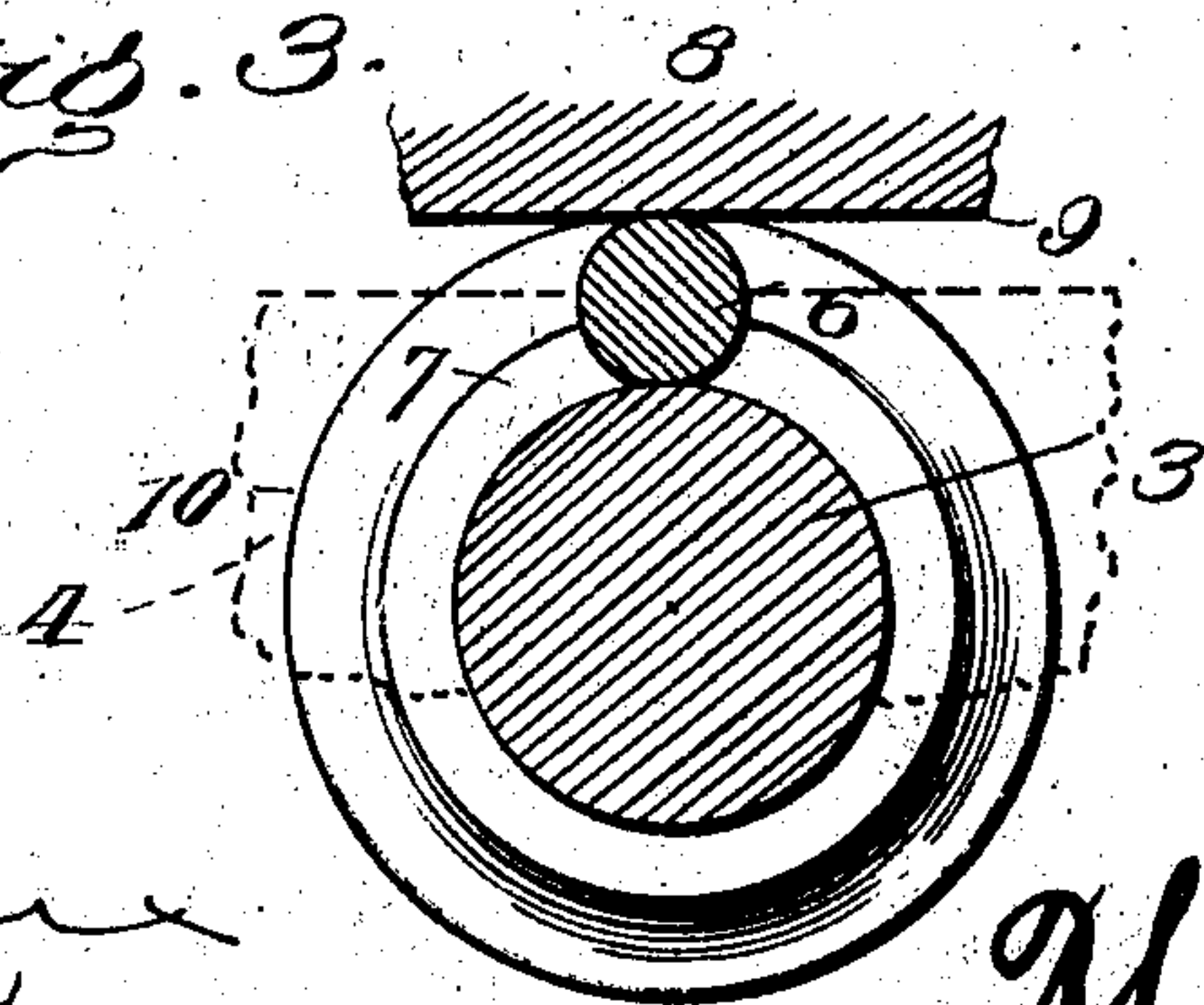


Fig. 3.



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UNITED STATES PATENT OFFICE.

COMMODORE V. RANDOLPH, OF PADUCAH, KENTUCKY.

JOURNAL-BEARING.

No. 815,469.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed July 14, 1905. Serial No. 269,671.

To all whom it may concern:

Be it known that I, COMMODORE V. RANDOLPH, a citizen of the United States, residing at Paducah, in the county of McCracken and State of Kentucky, have invented certain new and useful Improvements in Journal-Bearings, of which the following is a specification.

The purpose of this invention is to minimize the friction between the journal and bearing of rolling-stock, such as railway-cars, thereby lessening the draft and increasing the life of the wearing parts.

Another object of the invention is to neutralize the vibration and shock incident to the wheels of cars passing over the joints between the rails, thereby adding materially to the comfort of the passengers and diminishing the wear of the rolling-stock.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation of the invention. Fig. 2 is a vertical sectional view on the line X X of Fig. 1. Fig. 3 is a detail cross-section on the line Y Y of Fig. 2, brasses omitted.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

As illustrated the invention is applied to a truck or a car, the truck-frame being indicated at 1, said frame 1 being provided with suitable journal boxes or hangers 2, in which are mounted the journal parts which comprise this invention. It will be understood that the boxes 2 will embody suitable casings which will house and protect the parts comprised in the journal-bearing and prevent dirt or other foreign matter getting thereto. It is preferred that the ends of the axles 3, mounted in each truck-frame 1, shall be arranged in the vertically-disposed brasses 4, located in the lower portions of the journal-boxes 2, said brasses 4 being prevented from downward displacement by means of suitable attaching-bolts 5 or the like. The weight of the truck-frame 1 and the car-body supported thereby is not received upon the brasses 4, the upper ends of said brasses being spaced to admit of arrangement of the

roller 6 between said spaced portions, said roller directly resting upon the outer end portion of the axle 3. The axle 3 may be provided with an annular groove 7, in which the roller 6 is disposed, said groove 7 preventing lateral play of the roller in a manner which will be evident. The car truck or frame 1 is directly supported upon a vertically-arranged journal member 8, disposed in each box 2, said journal member being rotatable about an axis at approximately a right angle to the axis of rotation of the axle 3. The lower end of the member 8 is enlarged, flaring outwardly, as shown at 9, and the roller 6 is in contact with the under side of the enlarged portion 9 upon one side of the center of axis of the said member 8. The lower or under side of the portion 9 of the member 8 is also in direct contact with the axle 3 at a point adjacent the side of the member 8 opposite that adjacent which the roller 6 engages therewith. This roller 6 is thus in engagement with the member 8 upon one side of its axial center, whereas the axle engages therewith upon the opposite side, said axle being formed with a collar or annular projection 10, which is in direct contact with the journal member 8 above described. The upper portion of the member 8 is received in a cylindrical boxing 11, which is arranged in the upper end of the journal-box 2, snugly fitting therein. The boxing 11 is provided with a horizontal partition 12, which separates the upper portion of the boxing from the lower portion and forms a lubricant-receptacle 13 at the upper extremity of said boxing. A feed-opening 14 in the partition 12 admits of passage of the lubricant or oil in the chamber or receptacle 13 to the space below the partition and between said partition and the upper end of the journal member 8.

It will be noted that the lower end of the journal member 8 has a roller-bearing with reference to the axle, whereas the upper end of the member 8 has an oil-bearing with reference to the truck-frame 1, and the above subserves the reduction of friction in a manner which will be clearly apparent. The upper end portion of the boxing 11 is provided with an opening or slot, so that an oil-pump may be arranged in the chamber 13 to force the oil from said chamber to the space below the partition 12. The brasses 4 which afford a partial bearing for the axle, are adapted to freely move upwardly in the journal-box

as the oil above the journal member 8 is decreased in quantity by lubrication of the parts.

In actual use it will be seen that as the wheels 15 turn in one direction with the axle 3 the roller 6 is turned in the reverse direction, rotating in contact with the journal member 8. The rotative movement of the part 8 while in contact with the roller 6 and the collar 10 of course reduces the friction, and the lubricant-bearing of the upper end of said member 8 within the boxing 11 is also conducive to reduction of the friction, so that the bearing as heretofore set forth possesses various advantages of practical import, which are so apparent as to need no recitation.

In the drawings the pump, which may be used to force oil from the chamber 13 into the space below the partition 12, is indicated at 20 and may be of any conventional type. It is preferred that any suitable lever or like member (shown in dotted lines in Fig. 2) be connected with a short lever 21 of the pump to actuate the same in the customary way. A conventional form of relief-valve 22 is used to permit oil below the partition 12 to pass into the chamber 13, and this may be used when it is desired to permit the member 3 to move upwardly to level the truck. A key 23, carried by the operator, may be used to operate the relief-valve 22. The lever (shown in dotted lines in Fig. 2) to operatively connect with the member 21 of the pump 20, will pass through a slot or similar covered opening 24, which is provided for the chamber 13.

Having thus described the invention, what is claimed as new is—

1. In combination a hanger, a journal mounted therein, a journal member or bearing rotatable about an axis at an angle to the axis of rotation of the journal, said journal member or bearing having rotative connection at opposite sides of its center of axis with the journal aforesaid.

2. In combination, an axle, a truck, a journal-box on said truck, a compensating journal member mounted in the journal-box to support the truck on the axle, and rotatable about an axis at an angle to the axis of rotation of the axle, the journal member being in contact at one side of its axial center with the axle, and an antifriction-roller interposed between the axle and the journal member and disposed in contact with the latter at one side of its center of axis.

3. In combination, a hanger, a journal mounted therein, a roller located upon the journal to sustain the load and having its axis parallel therewith, and a bearing mounted upon the roller and adapted to turn about a vertical axis and move by contact of said roller therewith when the parts are in motion.

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

COMMODORE V. RANDOLPH. [L. S.]

Witnesses:

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