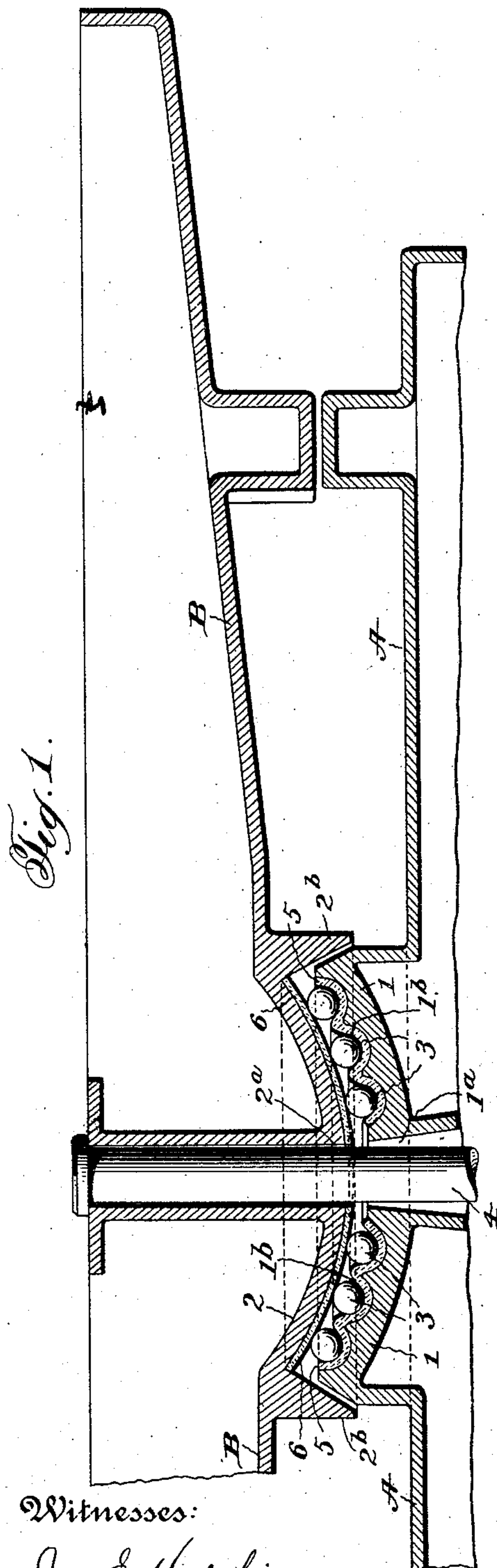


No. 829,502.

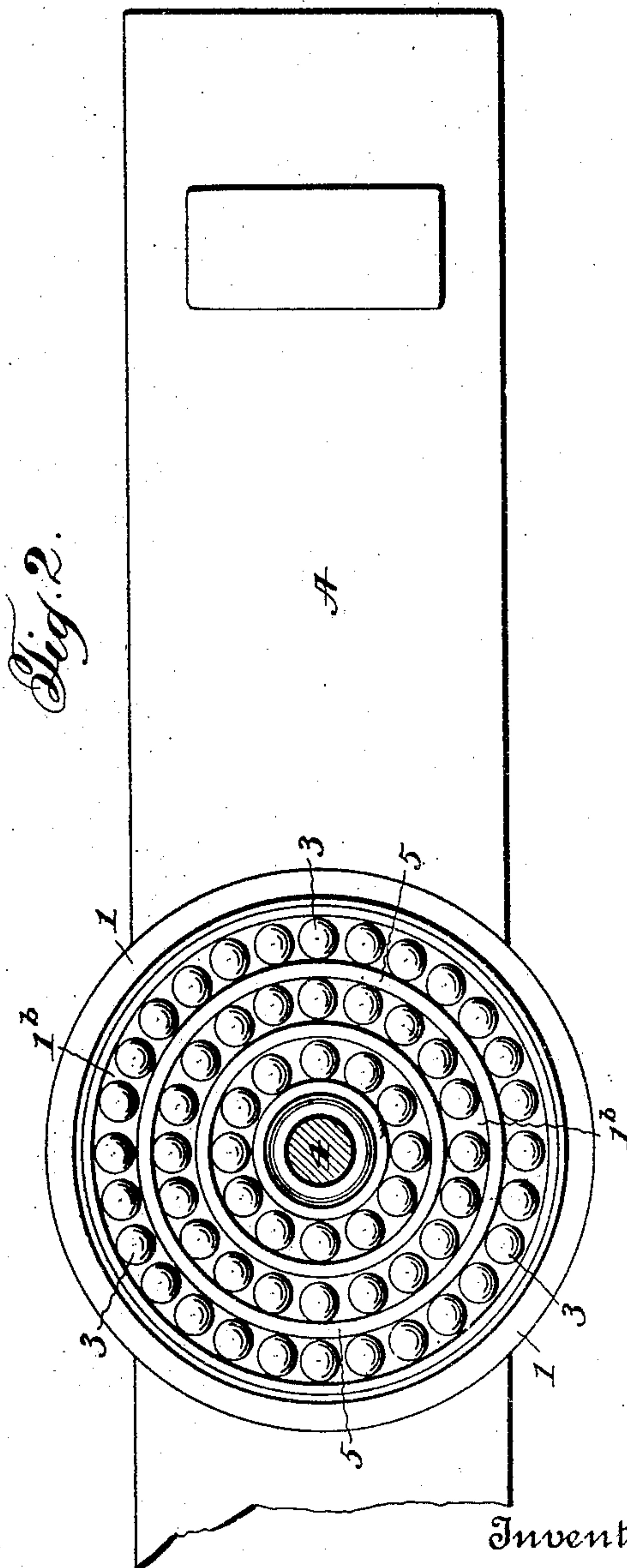
PATENTED AUG. 28, 1906.

H. C. BUHOUP.
CENTER BEARING FOR RAILWAY CARS.
APPLICATION FILED NOV. 20, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY C. BUHOUP, OF CHICAGO, ILLINOIS.

CENTER-BEARING FOR RAILWAY-CARS.

No. 829,502.

Specification of Letters Patent.

Patented Aug. 28, 1906

Application filed November 20, 1905. Serial No. 288,322.

To all whom it may concern:

Be it known that I, HARRY C. BUHOUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Center-Bearings for Railway-Cars; 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 relates to the construction of center-bearings for railway-cars, and particularly to that class of center-bearings in which balls are employed.

As at present constructed center-bearings of this character are comprised of two generally flat center-plates having balls interposed between them, pockets or annular raceways being formed in the center-plates for the reception of the balls. In such a construction when the car rolls to either side the pressure upon some of the interposed balls is greatly in excess of the normal pressure thereon, while the load carried by other of the balls is greatly diminished, if not entirely lacking, the result being that both balls and center-plates wear unevenly.

By interposing the balls between a convex and a concave center-plate the pressure upon the balls is uniform in all positions of the bolsters to which the center-plates are attached, thus obviating the objections heretofore noted, and such a construction embodies one feature of my invention.

There are other minor features of invention residing in particular constructions and elemental combinations, all as will hereinafter more fully appear.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a vertical central section of a center-bearing embodying my invention, the body center-plate and truck center-plate being shown as integrally attached to a body and a truck bolster, respectively. Fig. 2 is a plan view of the truck center-plate, the balls, and the truck-bolster.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, 1 and 2 are a truck center-

plate and a body center-plate, respectively, said center-plates being, if desired, integrally formed with the appropriate bolsters A and B. One of said center-plates, as the body center-plate 2, is provided with a bearing-surface of convex form and the other of said center-plates with a bearing-surface of concave form, each of said center-plates being preferably a segment of a sphere or central surface. Between the center-plates 1 and 2 balls 3 are interposed, and, if desired, a king-bolt 4 may be passed through the truck and body bolsters and center-plates, the center-plates being for this purpose provided with openings, as 1^a and 2^a, of such character as to permit the oscillation of the bolsters A and B without binding upon said king-bolt 4.

The interposed balls 3 are preferably arranged in a plurality of concentric circles which lie in independent parallel planes, and to maintain said balls in such relation one of said center-plates—as, for example, the concave truck center-plate 1—may be formed with suitable concentric circular grooves or raceways 1^b, adapted to receive said balls 3 and to maintain them in such position that their points of contact with the other center-plate lie in the curved bearing-surface thereof, thus permitting both a relative turning and oscillation of the center-plates with respect to each other.

If desired, the center-bearing may be composed of the balls interposed between the two center-plates, one of which is cast with a bearing-surface free from grooves or ball-raceways and the other of which is provided with suitable grooves for said balls; but in order that the life of the center-bearing may be increased the center-plates are preferably so cast that thin sheets of hard steel 5 and 6 may be applied to the wearing parts thereof, said wear-plates 5 and 6 being stamped or pressed to proper form for application to the ball-engaging surfaces of their respective center-plates 1 and 2.

For the purpose of preventing the entrance of dust the body center-plate 2 may be provided with a depending annular flange 2^b, which encircles the periphery of the truck center-plate 1 at a sufficient distance to permit the oscillation of the said center-plates.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A center-bearing comprised of a center-plate having a convex bearing-surface, a cen-

ter-plate having a concave bearing-surface, and balls interposed between said bearing-surfaces.

2. A center-bearing comprised of a center-plate having a spherical bearing-surface, a center-plate having ball-grooves therein, and balls interposed between said center-plates and lying in said grooves.

3. A center-bearing comprised of a center-plate having a ball-groove therein, a center-plate having a bearing-surface formed without ball-grooves, and balls interposed between the center-plates and lying in said groove.

4. A center-bearing comprised of a truck center-plate, a body center-plate, and balls interposed between said center-plates, said balls lying in different horizontal planes.

5. A center-bearing comprised of a center-plate having a spherical bearing-surface, a center-plate having a plurality of concentric ball-grooves arranged in different planes, and balls interposed between said center-plates and lying in said grooves.

6. A center-bearing comprised of a center-plate having a plurality of concentric ball-grooves arranged in different planes, a center-plate having a convex bearing-surface and an annular flange encircling the periphery of said first-named center-plate, and balls interposed between said center-plates and lying in said grooves.

7. A center-bearing comprised of a center-plate having a convex bearing-surface, a center-plate having a concave bearing-surface, and balls interposed between said center-plates, one of said center-plates being provided with a plurality of ball-grooves arranged in different planes and each of said center-plates having wear-plates conforming to the surfaces thereof adjacent to said balls.

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

HARRY C. BUHOUP.

Witnesses:

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G. D. FULLER.