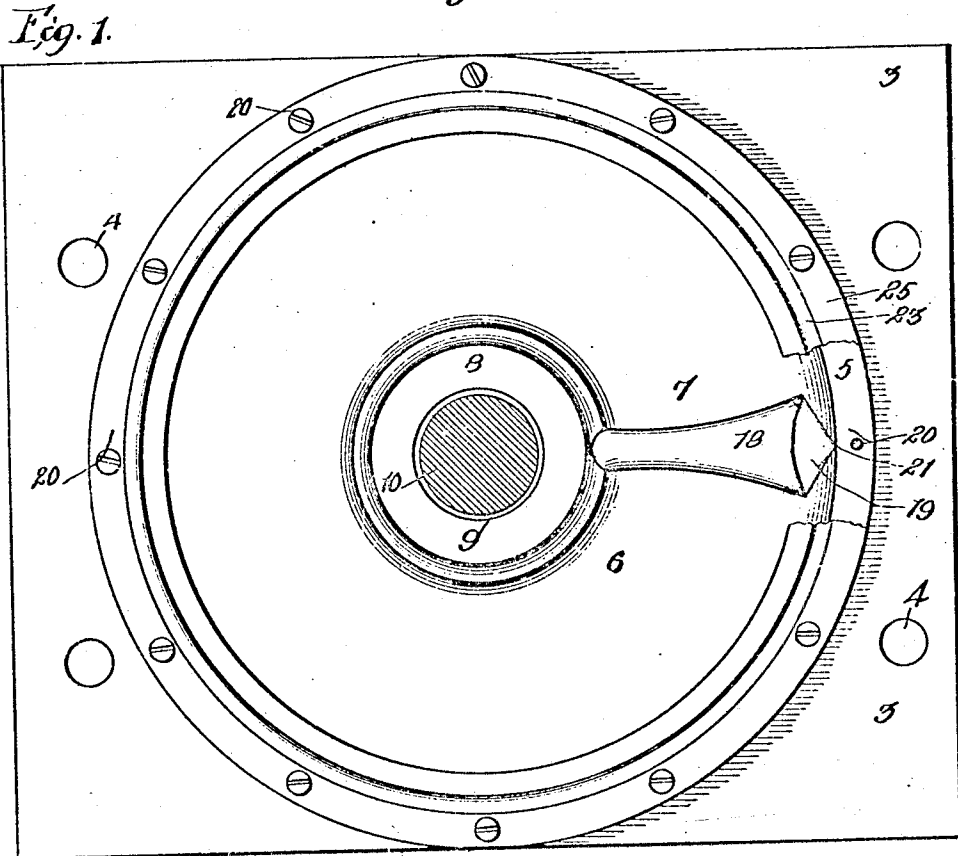
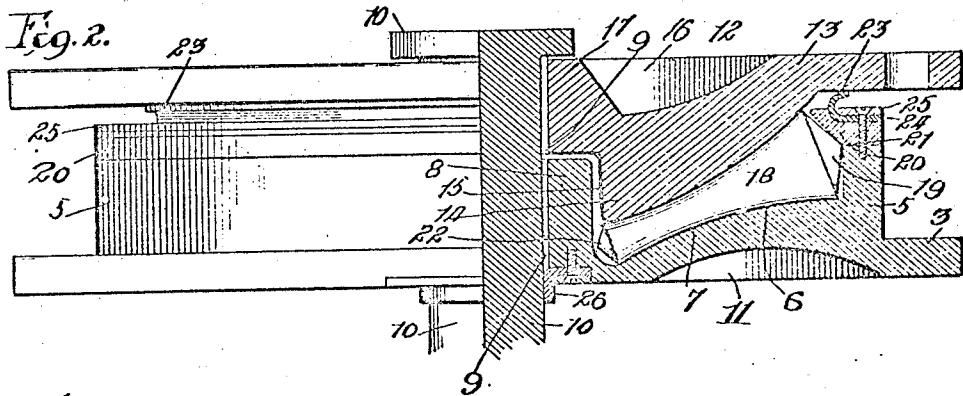


No. 895,148.

PATENTED AUG. 4, 1908.

L. J. BERG.
CENTER BEARING FOR CAR BODIES.
APPLICATION FILED MAY 9, 1907.



Witnesses
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UNITED STATES PATENT OFFICE.

LARS J. BERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO METALLIC SHEATHING COMPANY, A CORPORATION OF ILLINOIS.

CENTER-BEARING FOR CAR-BODIES.

No. 895,148.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed May 9, 1907. Serial No. 372,824.

To all whom it may concern:

Be it known that I, LARS J. BERG, 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 Car-Bodies, of which the following is a specification.

The present invention relates more particularly to the center bearing which supports a car body upon the truck, although the bearing might be used in other connections for the support of a heavy structure movable in a manner similar to that of a car body.

The object of the invention is to provide a roller bearing surface which, at the same time, permits of a suitable amount of play or side motion, which is advisable in the pivoting of car bodies.

The invention relates more particularly to the formation and mounting of the rollers in such manner as to dispense with the necessity for positive means of attachment for the rollers within the runway.

The invention further relates to the formation, construction and arrangement of the runway, and means provided to prevent the ingress of dust and dirt.

The invention consists in the features of construction and combination of parts hereinafter described and pointed out in the claims as new.

In the drawings Figure 1 is a top or plan view of the runway for the rollers; and Fig. 2 a half sectional elevation taken through the runway and gear bearing.

The runway, which is secured to the truck, comprises a rectangular bed plate 3 provided with suitable bolt holes 4, for attachment of the bed plate to the truck; and the bed plate has integrally formed therewith a circular runway wall 5 which provides, on the interior, a chamber 6 having a concave floor 7, which is depressed toward the center and elevated toward the periphery. The chamber terminates at the center in a circular collar 8, leaving a hole or opening 9 through the center of the runway for the reception of a king bolt 10 of the usual character. Beneath the convex floor 7 the bottom 11 of the bed plate is dished or hollowed to reduce the weight.

The runway casting above described co-operates with a bearing 12, which is attached

to the car body, or to the bolster in the usual manner. The bearing comprises a flat body portion 13, which has depending therefrom a rounded circular boss 14, the face of which has a curvature which, in cross section, is substantially equal to the curvature of the floor of the runway, but is curved in opposite relation thereto. The boss, in its center, is provided with a recess 15, of ample size to receive the collar 8 and allow a certain amount of play or motion between the parts, which tends to reduce the vibration of the car body when the trucks are in motion. The rear face 16 of the flat body portion is dished, as shown, and in the center of the dished portion is a solid hub 17, through which the king bolt passes. The opening through the runway is of sufficient size to provide a clearance around the king bolt, which arrangement permits the side motion or play of the trucks above referred to.

Between the equally curved surfaces afforded by the boss and the runway are interposed a plurality of elongated rollers 18, which rollers are radially arranged and of concave formation, the concavity of the rollers being coincident with the convexity of the surfaces against which the rollers bear, and the rollers being of minimum diameter at a point intermediate their length from end to end. The outer ends 19 of the rollers are enlarged and of conical formation, and the rollers are held in place by means of an overhanging beveled ring 20, which is screwed to the rim of the runway wall 5. The overhanging beveled portion of the ring, in combination with the inner face of the runway wall, provides an obtuse angle or shoulder 21 extending all around the runway, which angle or shoulder provides a bearing surface for the conical end of the rollers which are preferably beveled to contact the bearing wall at this point only. The inner or contracted end 22 of the roller is likewise of conical formation, and the roller, as shown, is of slightly less length than the width of the runway, which prevents any binding or cramping of the rollers when in use. In order to prevent the ingress of dust or dirt the overhanging ring 20 is provided with a leather washer 23 which bears against the under face of the body portion of the bearing plate 13 which overlies the ring 20. The leather washer 23 is set in an annular groove 24 and is clamped

in place by means of a ring 25. In like manner a washer 26 is provided around the king bolt hole to prevent the ingress of dust and dirt at this point.

5 In use, the looseness of the connection between the parts will permit a certain amount of sliding motion or side play which is afforded by reason of the curvature of the boss which rests upon a roller surface of equal curvature so that the rollers, in addition to their ordinary function of providing a pivotal bearing, furthermore provide a surface upon which the rounded boss can slide endwise or from side to side, which permits the trucks to have a considerable amount of vibration or side movement without jolting or jarring the car body. The formation and mounting for the rollers is one which holds the rollers at all times in proper contact with the bearing surfaces and obviates a certain wedging action which is incident to the use of conical rollers and straight bearing surfaces. In the use of the latter there is always a tendency to squeeze 25 or force out the rollers from the center, especially where a heavy weight is supported, but this tendency is obviated in the present case by reason of the fact that the minimum diameter of the rollers is at a point intermediate the ends of the rollers, so that the weight of the car tends to maintain the rollers in normal position rather than force them out of normal position. The overhanging ring provides a proper bearing point or angle for the conical outer ends of the rollers and reduces the friction to a single point, and at the same time obviates the necessity for journaling or otherwise positively securing the rollers in position. 40 Furthermore the curved formation of the rollers and bearing surfaces holds the rollers, at all times, in radial alignment and prevents any displacement of the rollers out of their true position, by reason of the fact that the curved surfaces will not register except when the rollers are maintained in proper position.

It will be seen from the foregoing description that the arrangement is one which is highly advantageous in the supporting of heavy structures like car bodies which are subjected to a considerable amount of vibratory motion in addition to a turning or pivotal motion, and that the arrangement is one which combines great rigidity and strength with simplicity of construction and smoothness of operation.

What I claim as new and desire to secure by Letters Patent is:

1. A center bearing, comprising a runway having a convexly curved bearing surface, a rounded boss having a convex surface, and interposed rollers each having a concave surface of less diameter intermediate its ends and adapted to register with the convex bearing surfaces, substantially as described.

2. A center bearing, comprising a runway having a convexly curved annular bearing surface of generally sloping formation in cross section from the periphery toward the center, a rounded boss having a convex surface, and interposed rollers each having a concave surface and adapted to register with the convex bearing surfaces, and being of minimum diameter intermediate its ends, substantially as described.

3. A center bearing, comprising a runway portion having a surrounding annular wall or flange and an interior collar and having a convexly curved runway floor curvedly rising from center to circumference, in combination with a rounded boss having a convexity equal in cross section to the convexity of the floor, elongated rollers having a concave bearing surface and being of enlarged diameter near the outer end, the end being of conical formation, and an overhanging beveled collar rigidly secured to the surrounding wall or flange, and forming, in combination therewith, an obtuse angle adapted to receive the top ends of the rollers, substantially as described.

4. A center bearing, comprising a runway portion having a surrounding annular wall or flange and an interior collar and having a convexly curved runway floor curvedly rising from center to circumference, in combination with a rounded boss having a convexity equal in cross section to the convexity of the floor, elongated rollers having a concave bearing surface and being of enlarged diameter near the outer end, the end being of conical formation, an overhanging beveled collar rigidly secured to the surrounding wall or flange, and forming, in combination therewith, an obtuse angle adapted to receive the top ends of the rollers, and a king bolt entered through the boss and the collar and adapted to permit side motion or vibration, substantially as described.

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Witnesses:

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