J. C. BARBER.

ROLLER BEARING CENTER PLATE.

APPLICATION FILED DEC. 17, 1909.

1,038,822. Patented Sept. 17, 1912.

Fig. 1.

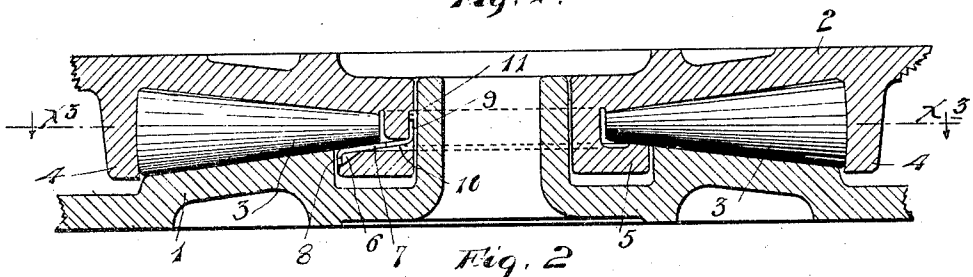


Fig. 2

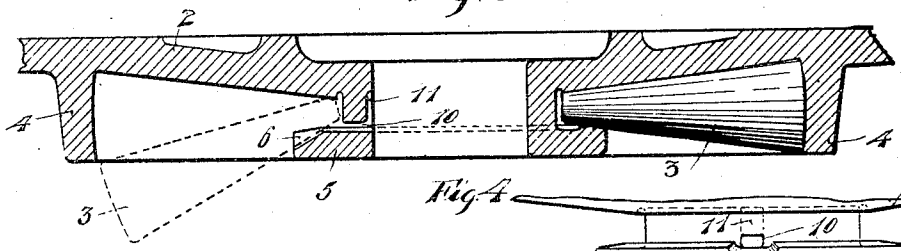


Fig. 4

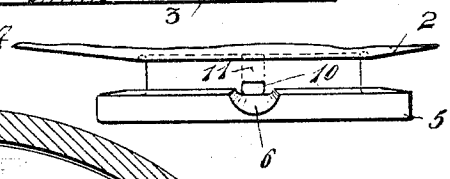


Fig. 3

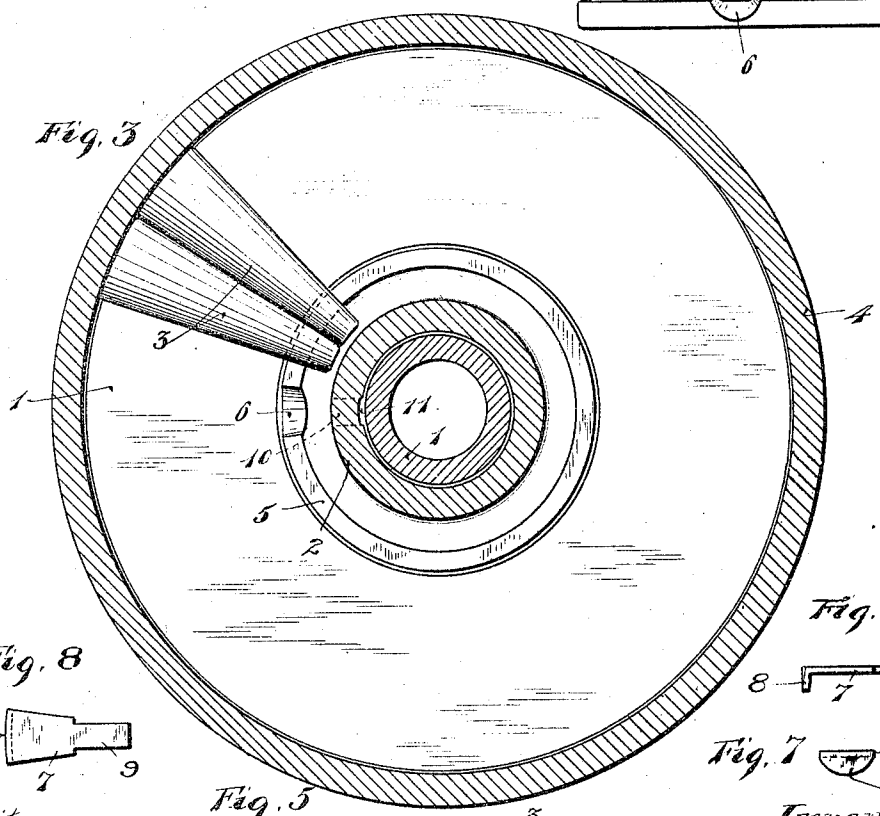


Fig. 6

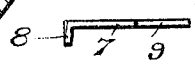


Fig. 8

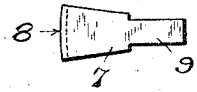


Fig. 7

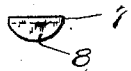
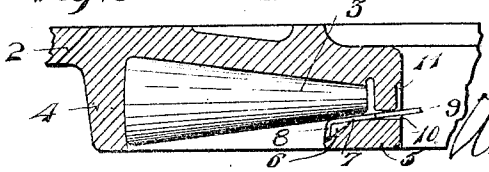


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN C. BARBER, OF CHICAGO, ILLINOIS, ASSIGNOR TO STANDARD CAR TRUCK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

ROLLER-BEARING CENTER PLATE.

1,038,822. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed December 17, 1909. Serial No. 533,557.

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 invented certain new and useful Improvements in Roller-Bearing Center Plates; 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 present invention has for its object to provide an improved roller-equipped center bearing for cars and other similar uses and, to this end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In a sense, this invention is in the nature of an improvement on the form of roller retaining device disclosed in the prior patent to Barber and Webb, No. 905,491, of date December 1, 1908.

In the accompanying drawings which illustrate the improved center bearing, like characters indicate like parts throughout the several views.

Referring to the drawings, Figures 1 and 2 are vertical sections, with some parts broken away and some parts removed, taken centrally through the improved center bearing; Fig. 3 is a horizontal section taken through the center bearing approximately on the line x^3 x^3 of Fig. 1, some parts being removed; Fig. 4 is a fragmentary view in elevation, showing a portion of the upper center bearing plate; Fig. 5 is a fragmentary view corresponding in the line of its section to Fig. 1, but showing the so-called retaining key of the roller retaining device applied, but before it has been interlocked, to the retaining flange of the upper bearing plate; Figs. 6, 7 and 8 are views in side elevation, end elevation and in plan, showing the retaining key removed from working position.

Of the parts of the center bearing, the numeral 1 represents the lower bearing plate which is adapted to be secured to the bolster or other part of a car truck. The numeral 2 represents the upper bearing plate which is adapted to be secured to the body bolster, not shown, of the car. These two plates have telescoping hubs of the proper construction to permit of the application of the usual king pin, not shown.

The numeral 3 represents the conical rollers which are radially disposed between the tread surfaces of the two plates. The upper plate is provided with an outer depending flange 4 properly disposed to afford an abutment for the outer or large ends of the rollers 3. The hub of the upper plate 2 is provided with an outwardly extended horizontal roller retaining flange 5 which underreaches the inner ends of the rollers 3 when the latter are in working position. The lower plate 1 is so constructed that, when the parts are in working position, the face of the retaining flange 5 will be approximately on the level or slightly below the inner edge of the raised tread surface of the lower plate. The upper outer edge of the retaining flange 5 is provided, at one point, with a segmental notch 6 of such size that, when a roller is moved into alinement therewith, the said roller will be permitted to drop down into an angular position, shown by dotted lines in Fig. 2, with the upper surface of its outer end on a line which extends below the lower edge of the thrust flange 4. This permits the rollers, one at a time, to be inserted into operative position in respect to the upper bearing plate or to be removed one at a time therefrom. The main body portion of the retaining flange 5 underlaps the inner ends of the rollers to such an extent that the rollers cannot drop out of the annular pockets provided therefor in the upper bearing plate, except when brought to registration with the said entrance notch 6.

To hold the rollers interlocked to the upper bearing plate with freedom for rotary movements and for traveling movements in respect to the said bearing plate, a so-called retaining key is secured in the said entrance passage after the rollers have all been inserted. This retaining key 7 is preferably stamped from sheet metal and its main body portion is flat, but, at its outer end, it is provided with a down-turned segmental head flange 8 that is adapted to fit the segmental entrance notch 6. The inner end of this key 7 is reduced to form a bendable portion adapted to be passed through a slot 10 formed in the hub of the upper bearing plate and then to be bent upward into a re-

cess 11 formed in the interior of the said hub. The shoulders at the junction of the tail 9 with the main body portion of the retaining key will permit the endwise movement of the latter in a direction toward the axis of the center bearing and will also cooperate with the upwardly bent end of the said tail to securely hold the key in working position with its segmental head 8 properly seated in the segmental entrance notch 6 and with the upper surface of the body portion of the said key in position to complete or make continuous the roller retaining surface of the retaining flange 5.

The roller retaining key, when applied as above stated, will itself be securely held in working position and will hold the rollers against separation from the upper bearing plate. The securing of the retaining key in position is also, as is evident, accomplished without the use of a rivet or a bolt. When it is necessary to remove the rollers from the center bearing plate to which they are interlocked, it is only necessary to straighten out the tail portion 9 of the retaining key 7. The construction is, therefore, not only highly efficient and capable of easy application and removal, but is of small cost. Furthermore, the segmental and tapered roller entrance notch or channel 6 provides a cut of the smallest possible dimensions in the roller retaining flange 5.

What I claim is:

1. A center bearing comprising lower and upper plates and rollers radially disposed between said plates, one of the said plates having a thrust flange engaging the outer ends of the said rollers and a retaining flange projecting from its hub and overlapping the inner ends of said rollers, the said retaining flange having a roller entrance notch and the hub of said plate having a radial perforation alined with said entrance notch, and a roller retaining key normally seated in said entrance notch and having an inner end passed through the perforation in said hub and bent to lock said key in working position, substantially as described.

2. A center bearing comprising lower and upper plates and rollers radially disposed between said plates, one of said plates having a thrust flange engageable with the outer ends of said rollers and a retaining flange projecting from its hub portion and overlapping the inner ends of said rollers, said retaining flange having a tapered roller entrance notch and the hub of said plate having a radial perforation alined with said notch and terminating in a depression formed on the inner surface of said hub, in combination with an approximately flat roller retaining key having a downwardly extended head engaging said notch and having a reduced inner end passed through the perforation of said hub and bent laterally and seated in the depression formed in said hub at the inner extremity of the said perforation, substantially as described.

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

JOHN C. BARBER.

Witnesses:
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A. M. LOVE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."