No. 710,609. Patented Oct. 7, 1902.

W. A. PUNGS.

CAR SIDE BEARING.

(Application filed Oct. 22, 1901.)

(No Model.)

Fig. 1.

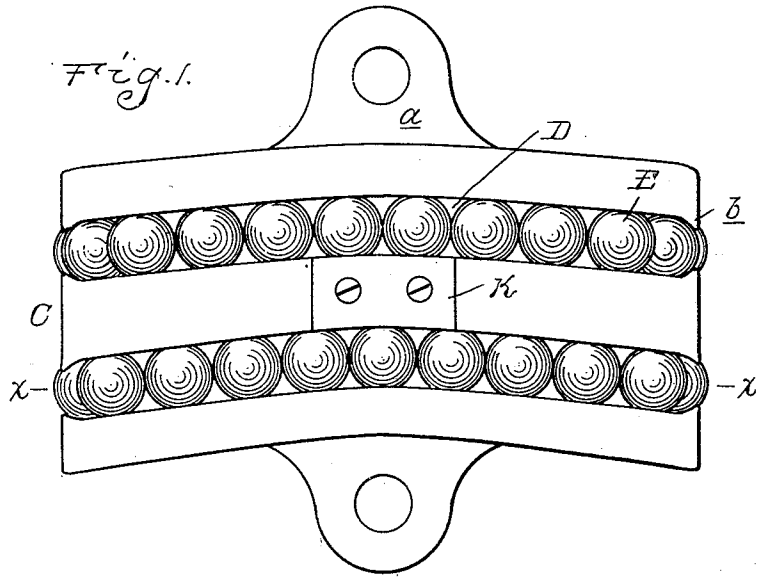


Fig. 3.

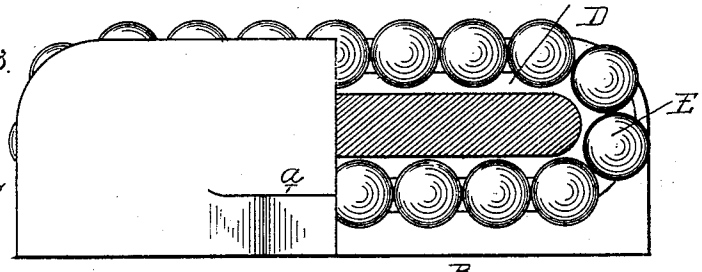


Fig. 2.

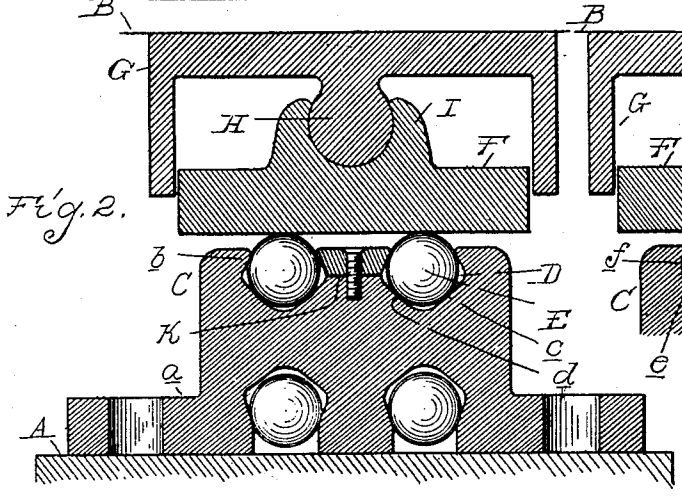
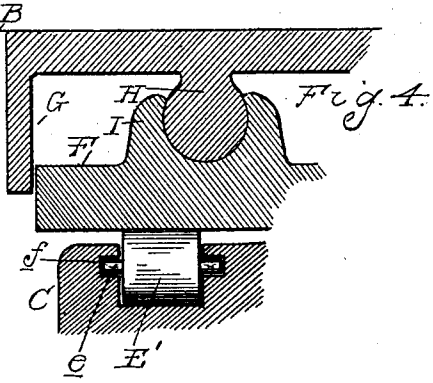


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM A. PUNGS, OF DETROIT, MICHIGAN.

CAR SIDE BEARING.

SPECIFICATION forming part of Letters Patent No. 710,609, dated October 7, 1902.

Application filed October 22, 1901. Serial No. 79,510. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PUNGS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Car Side Bearings, of which the following is a specification, reference being had therein to the accompanying drawings.

It is the object of the invention to obtain a free-rolling bearing in which the rolls cannot become displaced and in which the points of contact are distributed over a comparatively large area.

It is also an object to obtain a simple and inexpensive construction to build.

The invention therefore consists in the peculiar construction, arrangement, and combination of parts, as hereinafter described and claimed.

In the drawings, Figure 1 is a plan of the lower or truck member of the bearing. Fig. 2 is a cross-section through the bearing as attached to the bolster and truck of the car. Fig. 3 is a longitudinal section on line *x x*, Fig. 1. Fig. 4 illustrates a modification.

A represents the upper face of the truck-frame of the car, and B the lower face of the bolster. As the general arrangement of the side bearing in relation to the car is well known and forms no part of the present invention, the truck and bolster are not further illustrated in the drawings.

C is the supporting member of the bearing which carries the rolls and which is preferably secured to the truck-frame. As shown, this member comprises a block preferably formed of cast metal and having apertured ears *a*, by means of which it may be bolted or otherwise secured to the truck-frame. In plan this block is preferably of segmental shape, the radius of the curve being the distance from the center to the king-bolt of the truck.

D is a channel formed in the block C and extending longitudinally around the same. This channel forms an endless race in which a series of free rolls E are placed and adapted to travel. As shown in Figs. 1 and 3, the rolls E are in the form of balls and are held from disengagement in the channels D by overhanging lips or flanges *b* at the outer edges of the channels, which reduces their width to less than the diameter of the balls. The inner face of the channel is also preferably formed of V-shaped cross-section, so as to form the two points of contact *c* and *d* for the balls. The block C is preferably provided with two channels D, arranged parallel to each other, so as to form two rows of balls for contacting with the coöperating member F of the bearing. The races on the upper face of the block are of a curve having its center in the king-bolt of the truck.

The member F is secured to the bolster of the car, and in order that it may be in perfect contact with all the balls carried by the member C it is preferably attached to the bolster by a universal joint. As shown, this is formed by providing a plate or member G, which is directly secured to the bolster, which member has arranged centrally thereof a ball or spherical projection H, which engages a corresponding socket formed on the upper face of the member F. In order to prevent turning of the plate F, depending lugs or flanges I are provided on the plate G, which extend in adjacence to the edges of the plate F.

The construction being as shown and described, in operation whenever the plate F bears against the balls E and is moved in relation to the member C the balls will roll in the races D, causing the movement of the entire series of balls around said races. Thus the balls are always in position for bearing against the plate F, and it is immaterial whether the movement of said plate is large or small or in either direction, as in every position and in every movement the balls will freely roll in contact with the plate. In order to permit of engaging the balls with the races or removing them in case of breakage, a portion of the overhanging flanges or lips *b* is cut away, so as to form an entering slot for the balls, and to prevent the accidental disengagement of the balls this entering slot may be filled by the detachable member K.

In Fig. 4 I have shown a modification which in place of balls rollers E′ are employed, which are provided with projecting pintles *e*, adapted to engage with grooves *f*, formed in the sides of the ball-races.

What I claim as my invention is—

1. In a car, the combination with the bolster and body members, of a support secured to one of said members, two endless series of disconnected rolling members extending vertically about the support, a bearing engaging both series of rolling members, and a rocking connection between said bearing and the other member.

2. In a car, the combination with the bolster and body members, of a support secured to one of said members, a wear-plate adjacent to the support, a universal joint connecting the wear-plate with the other member, and two endless series of disconnected rolling members extending vertically about the support upon opposite sides of the universal joint and engaging the wear-plate.

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

WILLIAM A. PUNGS.

Witnesses:
M. B. O'DOGHERTY,
H. C. SMITH.