

(No Model)

J. J. A. MILLER.
RAILWAY ROLLER BEARING CAR WHEEL.

No. 583,917.

Patented June 8, 1897.

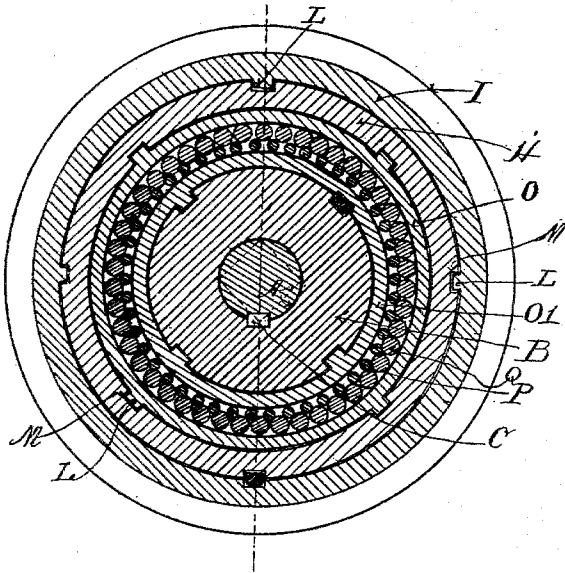


Fig. 1

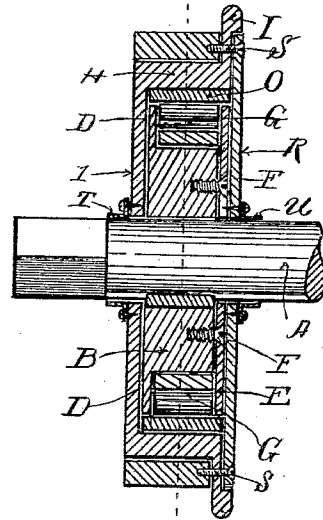


Fig. 2

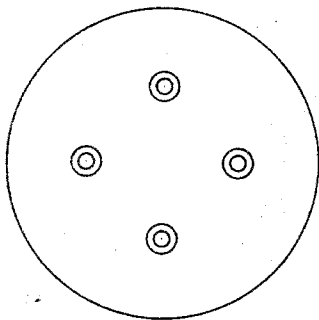


Fig. 3

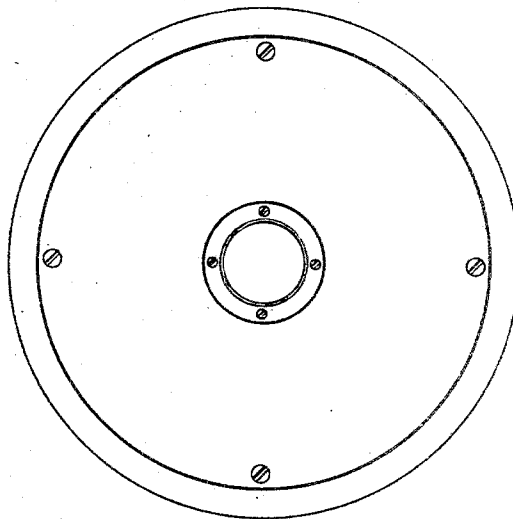


Fig. 4

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. A. MILLER, OF DENVER, COLORADO.

RAILWAY ROLLER-BEARING CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 583,917, dated June 8, 1897.

Application filed January 18, 1897. Serial No. 619,601. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. A. MILLER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Railway Roller-Bearing Car-Wheels; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in railway roller-bearing car-wheels; and the objects of my invention are, first, to provide a roller-bearing car-wheel having interchangeable wearing parts; second, to provide an improved roller-bearing in the wheel. I attain these objects by the mechanism illustrated and described in the accompanying drawings and specification, in which—

Figure 1 represents a side elevation in section through Fig. 2 of my improved car-wheel. Fig. 2 represents a sectional elevation of Fig. 1; Fig. 3, a side elevation of the roller-disk covering plate, and Fig. 4 a side elevation of the side plate of the tread and wheel.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, A designates a fragment of an axle-shaft. This shaft may be either square or round and may be fixed in suitable supports or rotatable in boxes. The core of my improved wheel consists of a disk B, which I fit to this shaft with a key C or other suitable means. This disk has an integral side flange D, which is arranged even with one side of it and is of larger diameter. On the opposite side a plate E is secured by means of screws F. This arrangement forms a central tread portion G between the two flanges on the disk. The tread H of the wheel is provided with the usual flange I and with an integral side flange J' on the side opposite this flange I, which extends to the axle and rests freely on it. Upon the cast face of the tread portion of the wheel I place a removable tire J, of steel or other suitable

metal, which is provided with depending lugs L. These lugs fit into notches M, cut in the cast tread portion, or I may fit a key N partially in the tire and partially in the tread portion. The flange side of the tread portion has a chamber cast into it, and around the periphery of this chamber I also removably secure a metal ring O in a manner similar to the tread-ring. The core-disk rests in the chamber, and upon its tread portion I also secure a ring O', of steel or other suitable metal. Around the tread portion of the disk-core between its flanges I arrange a circle of rollers P, arranging them close enough to almost touch one another. Between each two of these rollers I place a third roller Q or a circle of rollers resting upon the rollers of the first circle. I preferably make the outer circle of rollers larger in diameter than the inner circle and make them of sizes that will just fill the space between the tread of the core-disk and the periphery of the chamber. To place the parts together, the core-disk should be first keyed to the axle and then the tread portion slipped on the shaft and over the disk. The side plate of the disk should be removed and the rollers inserted on the tread. The plate is then replaced. I then secure a plate R to the side of the tread portion of the wheel over the entrance to the chamber by screws S. These screws may be extended into the steel tread-ring, as shown in Fig. 2, and secure it against lateral displacement from the tread portion of the wheel. When the axle is stationary or fixed against rotation, the disk is also stationary and the tread portion rolls on the rollers on the core-disk; but if the axle is supported to rotate in suitable boxes the axle and disk will rotate and also the tread until a brake is applied to the tread, when it will slow down and stop if under weight and momentum, and the axle and disk will be free to rotate independent of it. Upon each side of the wheel I secure by screws T dust-guards U, which consist of pieces of leather or rubber arranged to bear on the axle. The several metal rings when worn too thin for safety, or when the space in which the rollers run becomes too large or the bearing too loose,

can be easily removed without replacing the entire wheel. In Patent No. 577,519, issued to me December 22, 1896, I illustrated and described certain features shown but not claimed herein.

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

1. The combination with the axle, of a disk secured thereto having a double circle of rollers arranged around its periphery, a tread portion having a renewable ring-tread portion, a chamber in said tread portion adapted to fit over said disk and rollers, and a renewable ring arranged to fit in the periph-

ery of said chamber and bear on the outer circle of rollers, substantially as described.

2. The combination of the axle, the disk, the rollers and the tread portion having a chamber in said tread portion and an independent removable metal ring on its tread portion, and on the periphery of its chamber, substantially as described.

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

JOHN J. A. MILLER.

Witnesses:

JOHN VIDEEN,

RICHARD W. TARRANT.