To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Antifriction Center-Bearings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in antifriction center bearings.

The object of the invention is to provide a simple and inexpensive antifriction center bearing for railway cars and so arranged that the position of the antifriction members is constantly shifted relatively to the bearing surfaces with which they engage to thereby minimize wear.

In the drawing forming a part of this specification, Figure 1 is a vertical, sectional view taken longitudinally of a car, and showing my improvements interposed between the body and truck bolsters. Fig. 2 is a horizontal, sectional view taken substantially on the line 2—2 of Fig. 1. Fig. 3 is a vertical detail sectional view taken substantially on the line 3—3 of Fig. 1. And Fig. 4 is a detail perspective of one of the chocks employed with my improvements.

In said drawing, 10 denotes the body bolster of a car, 11 the truck bolster and 12 the center pin by which the same are swivelly connected. Secured to the upper face of the truck bolster 11 is a lower bearing plate 13 and to the underside of the body bolster is secured the upper bearing plate or casting 14. The lower bearing plate 13 is provided on its upper face with an outer annular rim or flange 15 and an inner spaced annular rim or flange 16, the latter being somewhat higher than the former. The upper bearing plate 14 is clear, connected with an outer depending annular rim or flange 17, the lower portion of which is outwardly offset as indicated at 18 and overlaps the flange 15, a ring of fiber packing 19 being preferably interposed therebetween. Said upper plate 14 is also provided with an inner depending rim or flange 20 which overlaps said annular flange 16, said flange 20 being shouldered as indicated at 21 and having interposed therebetween and the upper edge of the flange 16, a ring of fiber packing 22.

The antifriction mechanism proper, comprises a lower annular wear plate 23, an upper annular wear plate 24, a folding plate 25, an upper series of antifriction rollers 26, a lower series of antifriction rollers 27, a series of chocks 28 cooperable with the upper series of rollers 26, and a lower series of chocks 29 cooperable with the lower series of rollers 27. The wear plate 24 is right angular in cross section with the vertical flange 30 thereof outermost. The upper wear plate 23 is also right angular in cross section but with the vertical flange 31 extending downwardly and on the inner side.

The intermediate or floating plate 25 is Z shaped in cross section with the outer flange 32 extending upwardly and the inner flange 33 extending downwardly. By this construction of the intermediate plate 25 it will be noted that I obtain a great strength against bending moments applied vertically thereon which permits me to employ fewer rollers without danger of the intermediate plate 25 becoming bent.

By referring to Fig. 3, it will be noted that the chocks 22 are provided at their lower left hand corners with relatively sharp extensions 34 which extend under the rollers 26 at the left hand ends thereof. The lower chocks 24 are provided with relatively sharp extensions 35 at their lower right hand corners and which extend under the rollers 27 at their right hand ends. From this it will be seen that the upper rollers 26 are permitted rotation to the left only, whereas the rollers 27 are permitted rotation to the right only, as viewed in Fig. 3. In view of the foregoing arrangement, it is apparent that the rollers 26 and 27 will be constantly shifted relatively to their respective bearing plates and always in the same direction, that is, the upper series will be shifted in a clockwise direction and the lower series in a counterclockwise direction, when looking down upon the bearing.

I claim:

1. In a device of the character described,
the combination with opposed bearing plates, of two series of anti-friction members between said plates, one series being located directly above the other, and a floating plate interposed between said anti-friction members, said floating plate being of Z section, the web extending horizontally and the flanges vertically.

2. In a device of the character described, the combination with opposed bearing plates, of two series of anti-friction members between said plates, one series being located directly above the other, a floating plate interposed between said anti-friction members, said floating plate being of Z section with the web extending horizontally and the flanges vertically, and two series of chocks associated with said anti-friction members, one series of chocks being arranged to prevent movement of the anti-friction members in one direction and the other series of chocks to prevent movement of the anti-friction members in the opposite direction.

3. In a center bearing for cars, the combination with a lower bearing plate having an annular groove on its upper face and an upper bearing plate having an annular groove on its under face, said bearing plates being telescoped around their peripheries, of two sets of anti-friction rollers located within said grooves, one set above the other, and a Z-plate inserted between said sets of rollers, the plate extending partly into each of said annular grooves.

4. In a center bearing for cars, the combination with upper and lower bearing plates having opposed annular grooves therein, of a wear plate of angular cross section disposed in each of said grooves, said wear plates being oppositely arranged, two sets of anti-friction members located in said grooves, and a floating plate interposed between said anti-friction members, said plate being of Z-section, whereby to resist vertical bending moments applied thereto from said anti-friction members.

5. In an anti-friction center bearing for railway cars, the combination with an upper bearing plate adapted to be secured to a body bolster, and a lower bearing plate adapted to be secured to a truck bolster, each of said plates being provided with an annular channel, of an annular wear plate of right angle cross section associated with the upper bearing plate, an annular wear plate of right angle cross section associated with the lower bearing plate, a series of anti-friction rollers mounted on said lower wear plate, a series of chocks associated with said upper series of rollers, a series of rollers in engagement with the upper wear plate, a series of chocks associated with said upper series of rollers, the two series of chocks being oppositely arranged, and a floating plate interposed between the two series of rollers.

6. In an anti-friction center bearing for railway cars, the combination with an upper bearing plate adapted to be secured to a body bolster, and a lower bearing plate adapted to be secured to a truck bolster, each of said plates being provided with an annular channel, of an annular wear plate of right angle cross section associated with the upper bearing plate, an annular wear plate of right angle cross section associated with the lower bearing plate, a series of anti-friction rollers mounted on said lower wear plate, a series of chocks associated with said rollers, a series of rollers in engagement with the upper wear plate, a series of chocks associated with said upper series of rollers, the two series of chocks being oppositely arranged, and a floating plate interposed between the two series of rollers.

In witness that I claim the foregoing I have hereunto subscribed my name this 17th day of March, 1916.

JOHN F. O'CONNOR.