

J. F. O'CONNOR.
 ROLLER SIDE BEARING.
 APPLICATION FILED JUNE 8, 1910.

984,236.

Patented Feb. 14, 1911.

Fig. 1

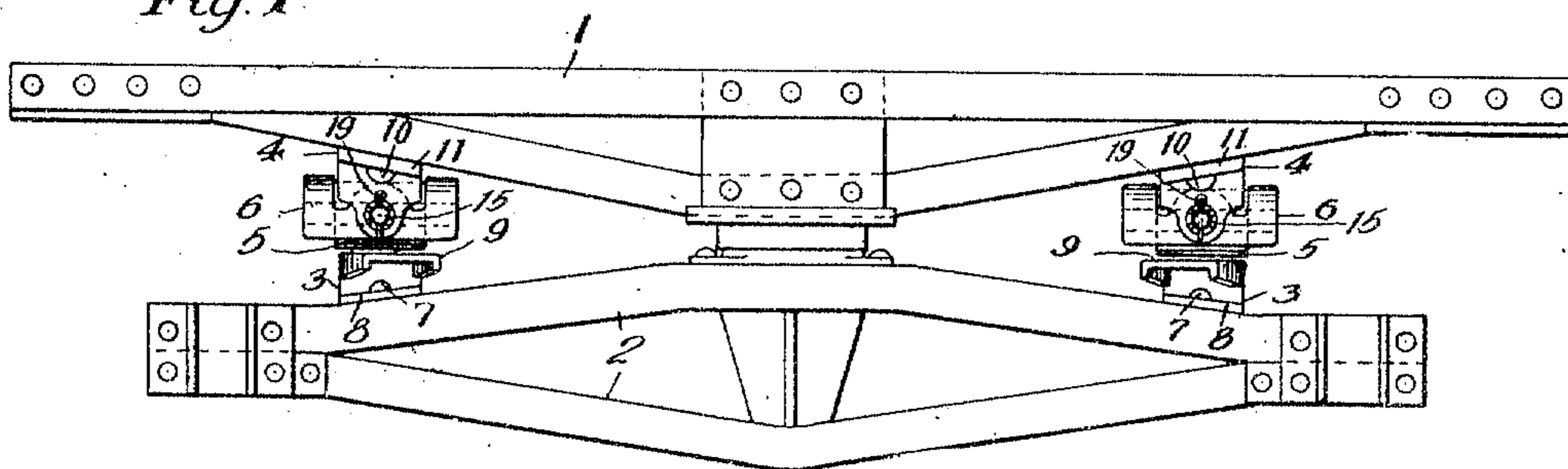


Fig. 2

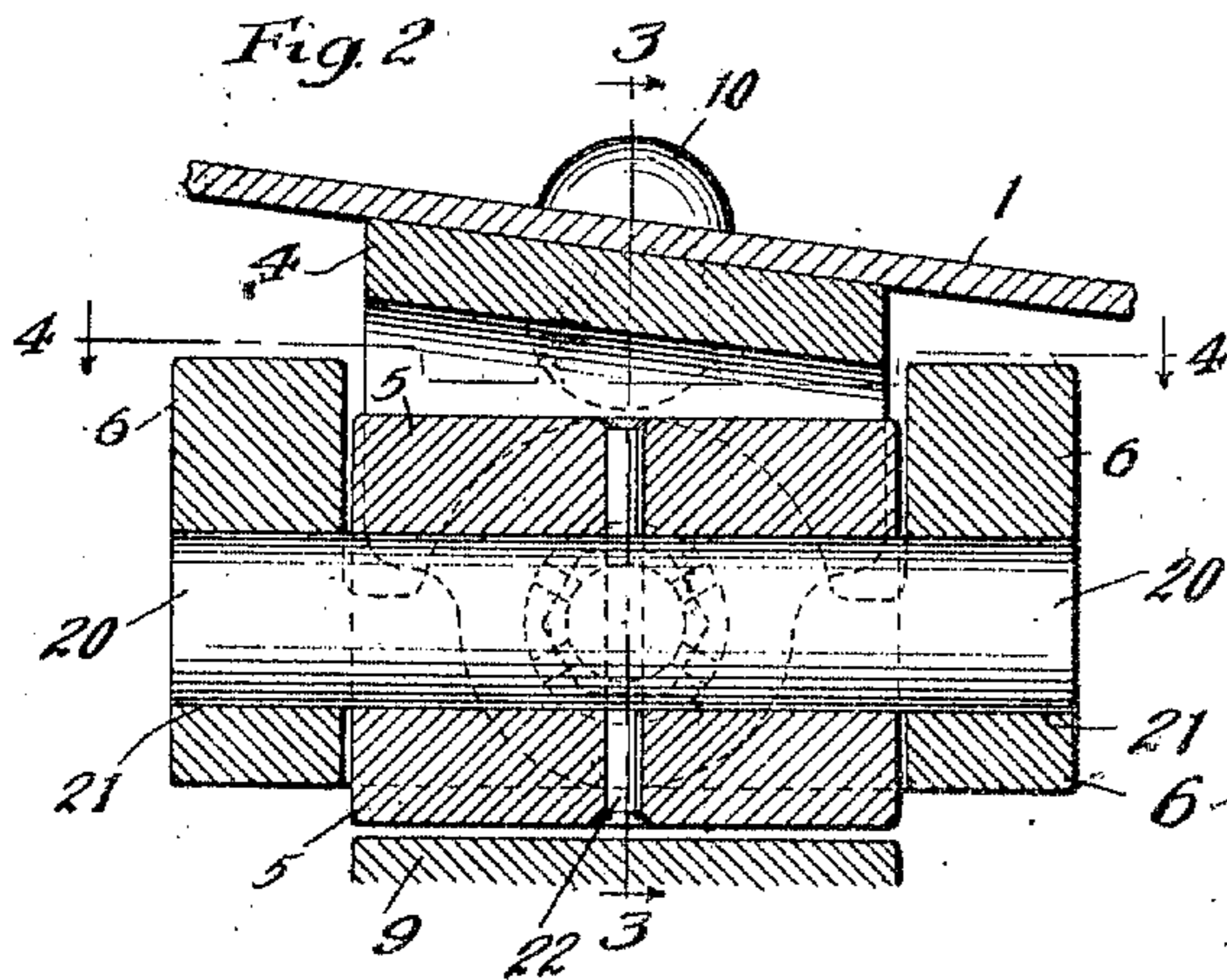


Fig. 4

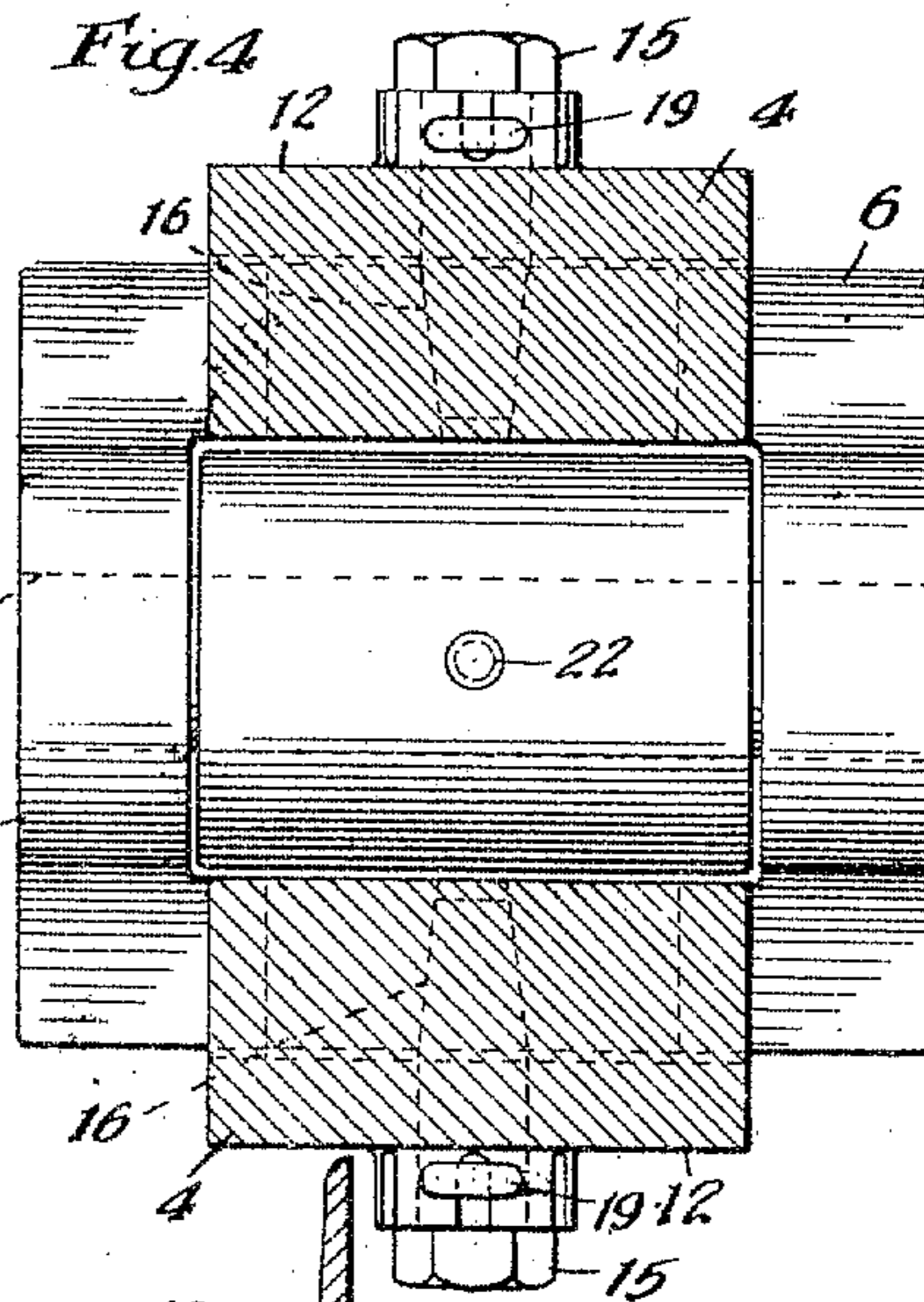
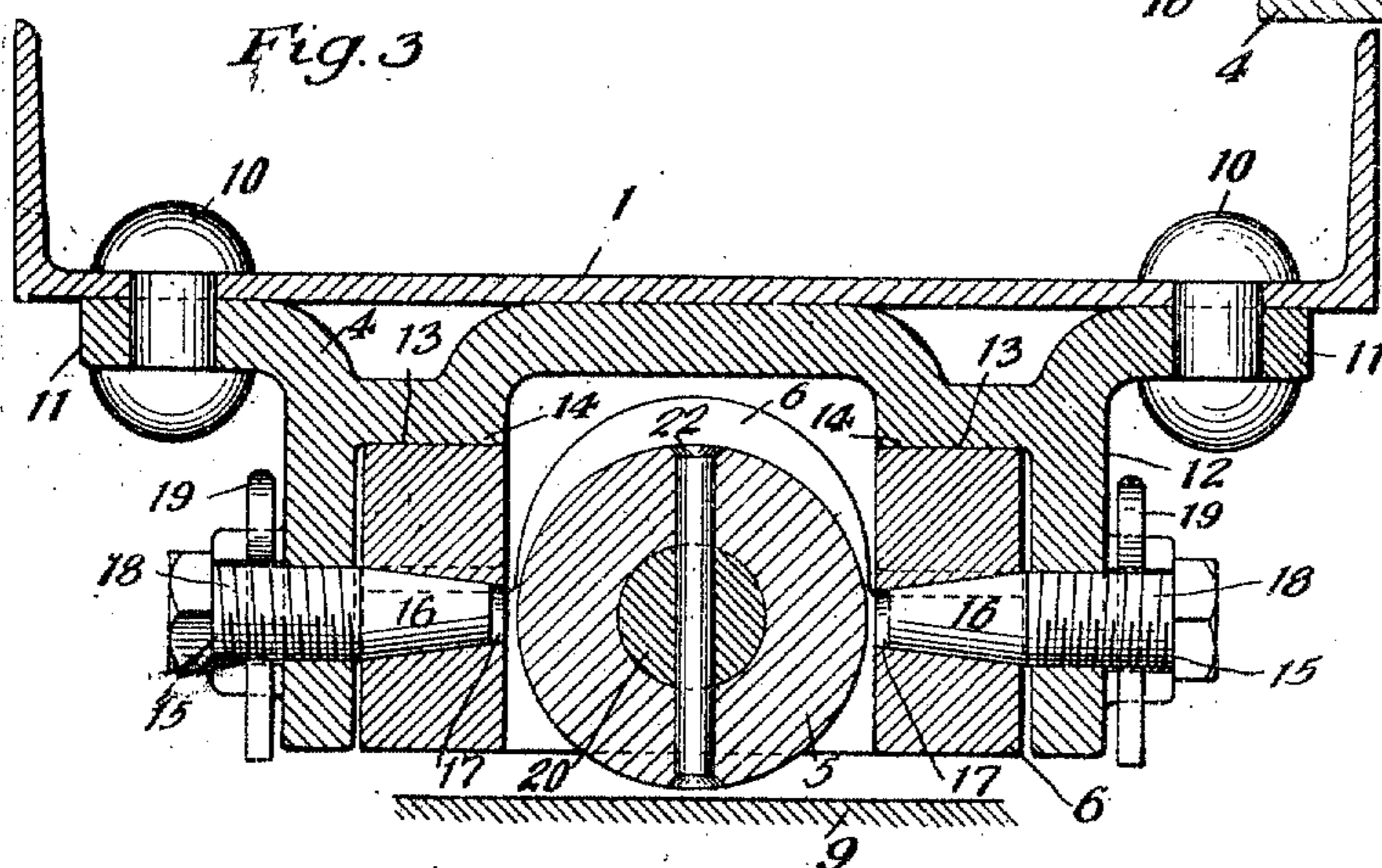


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

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ROLLER SIDE BEARING.

984,236.

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To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Roller Side Bearings, of which the following is a specification.

My invention relates to improvements in roller side bearings for railway cars.

10 In roller side bearings for railway cars, difficulty has heretofore been experienced in practical operation from the fact that owing to the deflection of the bolsters under load, the contact of the anti-friction roller
15 with the bearing plates frequently comes chiefly at one end of the roller, thus giving a very inadequate bearing contact area between the roller and plate or plates, and causing friction and destructive wear of the
20 parts.

The object of my invention is to provide a roller side bearing of strong, simple, efficient and durable construction by which this objection or difficulty will be obviated
25 or overcome.

My invention consists in the means I employ to practically accomplish this object or result as herein shown and described, and more particularly specified in the claims.

30 In the accompanying drawing forming a part of this specification, Figure 1 is a side elevation of car truck and body bolsters provided with roller side bearings embodying my invention. Fig. 2 is a detail, central,
35 vertical section in the plane of the axis of the anti-friction roller. Fig. 3 is a vertical cross section on line 3—3 of Fig. 2 and Fig. 4 is a horizontal section on line 4—4 of Fig. 2.

40 In the drawing, 1 represents the body bolster of a car, 2 the truck bolster, 3 the lower bolster bearing plate secured to the truck bolster, 4 the upper bolster bearing plate secured to the body bolster, 5 an anti-friction
45 roller and 6 a supplemental rocker or adjustable bearing plate interposed between the two bolster bearing plates and against which the anti-friction roller directly acts so that by its rocking or automatic adjustment in respect to the bolster bearing plates,
50 the anti-friction roller may automatically adjust or adapt itself to the tread face of the bolster bearing plate with which it directly contacts, and thus compensate for any in-

equalities due to deflection of the bolsters 55 under load or other causes.

The lower or truck bolster bearing plate 3 is rigidly secured to the truck bolster by bolts or rivets 7 which pass through its base flange 8, and it is provided with an extend- 60 ed tread face 9 curved about the king bolt as a center and projecting to each side of the truck bolster 2.

The upper or bolster bearing plate 4 is rigidly secured to the body bolster 1 by bolts 65 or rivets 10 which pass through its flange 11, and it is provided with integral depending flanges or lugs 12 to receive between them the supplemental rocker or adjustable bearing plate 6, and also with curved bearing 70 faces 13 for engagement with the corresponding bearing faces 14 of the supplemental bearing plate 6.

The supplemental or rocker bearing plate or frame 6 is movably or pivotally secured 75 to one of the bolster bearing plates, preferably the upper or body bolster bearing plate, by pivot pins 15, preferably having conical ends 16 to enter the cone shaped pivot holes 17 in the supplemental bearing plate 6, and 80 provided with screw threads 18 for engagement with the corresponding screw threads in the flanges or lugs 12 of the fixed bearing plate 4. The screw pivot pins 15 are also furnished with split keys 19 to lock them 85 in position.

The anti-friction roller 5 may be of any suitable form, that illustrated in the drawing being a cylindrical one instead of a conical one, and provided with trunnions 20 90 at each end, preferably integral with each other, and in a separate piece from the roller. The trunnions 20 fit in and engage the supplemental or intermediate rocker bearing plate 6 which is furnished with suitable bearings 21 for engagement with the trunnions 20. The trunnion member or shaft 20 is preferably fixed to the roller 5 by a transverse rivet 22.

As the anti-friction roller has its direct 100 bearing or engagement against the supplemental bearing plate 6, and as this supplemental bearing plate 6 may automatically rock or tilt in respect to the fixed bearing plate by which it is carried, to the extent 105 necessary to enable the roller to properly and evenly contact throughout its length with the other bolster bearing plate, any de-

flexion of the bolsters and of the bearing plates carried thereby is automatically compensated for, thus insuring proper action of the anti-friction roller from end to end and preventing undue friction, cutting and wear incident to an unequal bearing or contact of the anti-friction roller with the treads or bearing surfaces of the bearing plates.

10 As the bolster bearing plate 4 and supplemental or rocker bearing plate 6 have interengaging load supporting surfaces or bearings 13, 14 independent of the pivotal connection 15 between these parts, the pivotal connection 15 is entirely relieved from shearing or other strain and is not required to perform a load supporting function.

As in my invention, the supplemental rocker bearing plate interposed between the main or bolster bearing plates 3, 4, is free to rock or tilt, the roller is free to adjust itself to any axial line of rotation that may be required, and the bearing plates 3, 4 can thus be fixed to bolsters of varying inclinations of surface to which the bearing plates 3, 4 are directly applied, without necessitating any change in the patterns of the bearing plates 3, 4 to meet any variations in angle of the bolsters, whether such variation be due to inaccuracies of manufacture, changes of design, deflections while in use or to errors in molding the castings.

I claim:—

1. In a rocker side bearing for railway cars, the combination with a body bolster and a truck bolster and bolster bearing plates rigidly secured thereto, of a supplemental rocker bearing plate mounted to tilt about an axis transverse to the bolster and interposed between said bolster bearing plates, and an anti-friction roller interposed between said supplemental rocker bearing plate and one of said bolster bearing plates and extending across said bearing plates and journaled at its ends in said rocker bearing plate, substantially as specified.

2. The combination with upper and lower bolster bearing plates, of a supplemental rocker bearing plate mounted to tilt about an axis transverse to the bolster and an anti-friction roller interposed between said rocker bearing plate and one of said bolster bearing plates and extending across said bearing plates and journaled at its ends in said rocker bearing plate, substantially as specified.

3. The combination with upper and lower bolster bearing plates, of a supplemental rocker bearing plate mounted to tilt about an axis transverse to the bolster and an anti-friction roller interposed between said rocker bearing plate and one of said bolster bearing plates and extending across said bearing plates and journaled at its ends in said rocker bearing plate, the axis about which said supplemental bearing plate tilts being transverse to the axis of the anti-friction roller, substantially as specified.

4. The combination with upper and lower bolster bearing plates, of a supplemental rocker bearing plate, and an anti-friction roller interposed between said rocker bearing plate and one of said bolster bearing plates and extending across said bearing plates and journaled at its ends in said rocker bearing plate, the axis about which said supplemental bearing plate tilts being transverse to the axis of the anti-friction roller, said anti-friction roller having trunnions of reduced diameter engaging said supplemental bearing plate, substantially as specified.

5. The combination with upper and lower bolster bearing plates, of a supplemental rocker bearing plate pivotally secured to one of said bolster bearing plates, and having curved contacting load sustaining bearing faces independent of the pivotal connection to relieve said pivotal connection of the load, and an anti-friction roller interposed between said supplemental bearing plate and the other bolster bearing plate, substantially as specified.

6. The combination with upper and lower bolster bearing plates, of a supplemental rocker bearing plate pivotally secured to one of said bolster bearing plates, and having curved contacting load sustaining bearing faces independent of the pivotal connection to relieve said pivotal connection of the load, and an anti-friction roller interposed between said supplemental bearing plate and the other bolster bearing plate, the axis of said roller being transverse to the axis of said supplemental rocker bearing plate, substantially as specified.

JOHN F. O'CONNOR.

Witnesses:

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