(No Model.) 2 Sheets—Sheet 1.

W. ROBINSON.

CENTER BEARING FOR CAR TRUCKS.

No. 526,844. Patented Oct. 2, 1894.

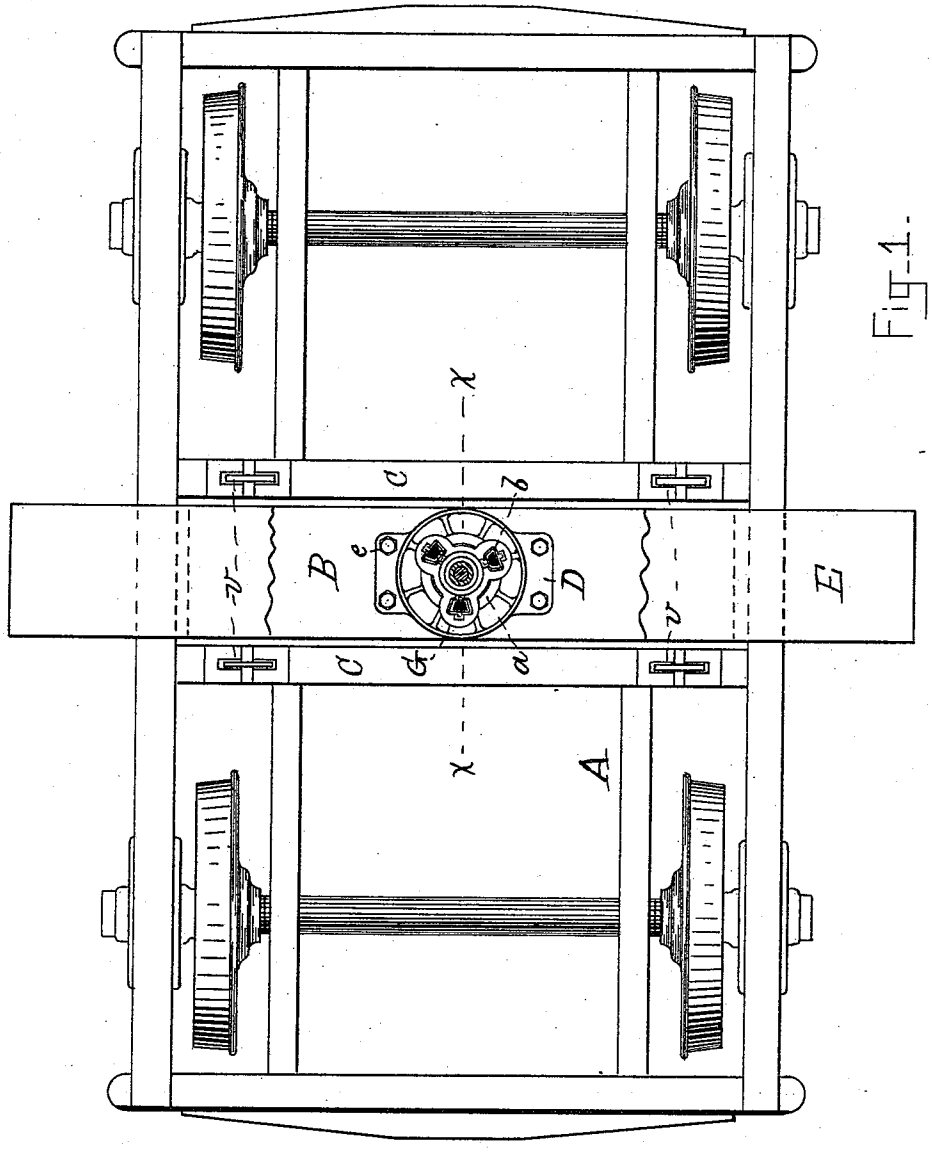

Fig. 1.

WITNESSES:
Geo. H. Graham.
William Clauss.

INVENTOR:
Wm. Robinson.

(No Model.)

2 Sheets—Sheet 2.

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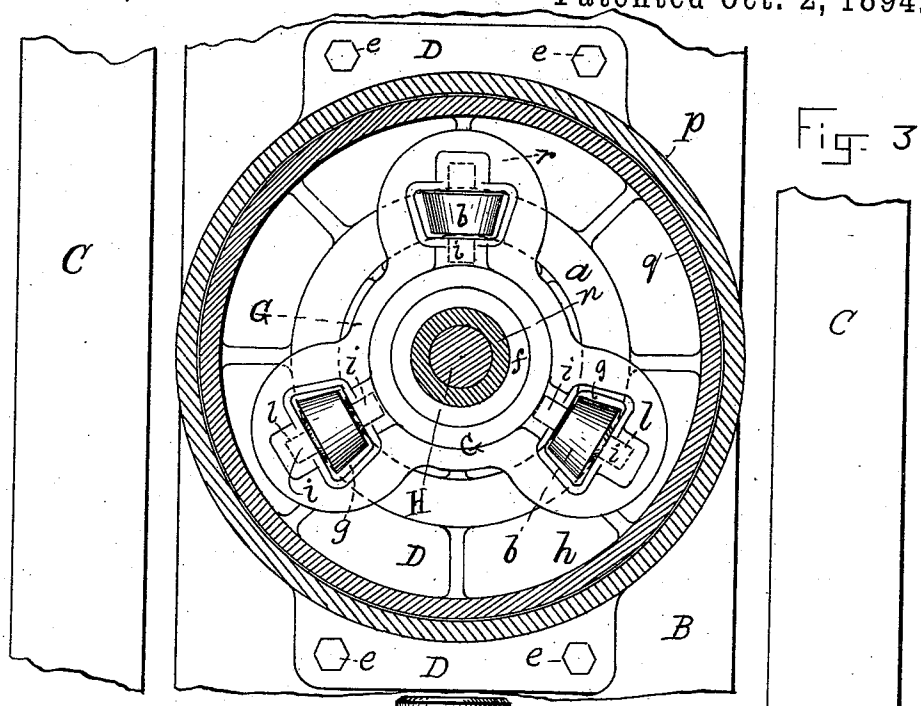

Fig. 3.

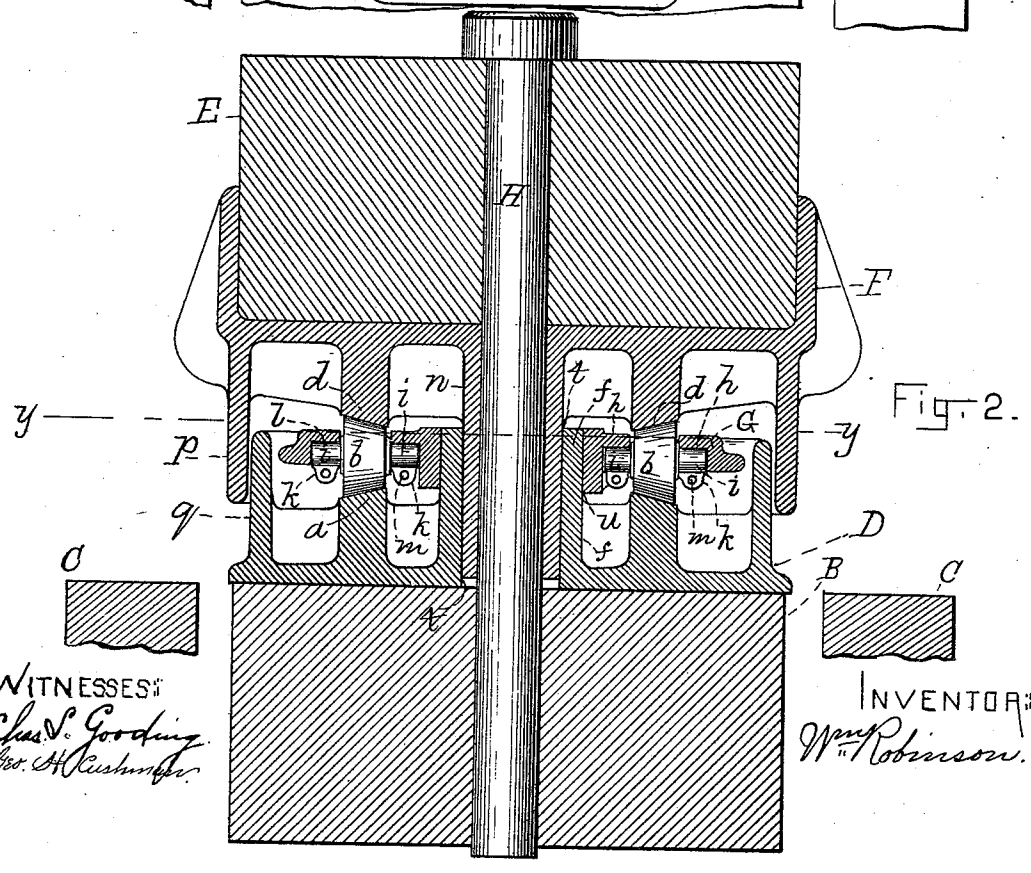

Fig. 2.

WITNESSES:
Chas. S. Gooding
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INVENTOR:
Wm. Robinson.

UNITED STATES PATENT OFFICE.

WILLIAM ROBINSON, OF BOSTON, MASSACHUSETTS.

CENTER BEARING FOR CAR-TRUCKS.

SPECIFICATION forming part of Letters Patent No. 526,844, dated October 2, 1894.

Application filed March 29, 1890. Serial No. 345,860. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ROBINSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Center Bearings for Car-Trucks, of which the following is a specification.

The object of my invention is to reduce the friction between the truck and the car body when the one swivels upon the other.

The nature of my invention will be understood from the description which follows, reference being had to the accompanying drawings which form a part of this specification, in which—

Figure 1. is a plan view of a car truck, showing the body bolster in position but partly cut away, the whole illustrating my invention on a small scale. Fig. 2, is a vertical section on an enlarged scale, through the line *x*, *x*, Fig. 1, clearly illustrating my invention in combination with the parts of the truck immediately connected therewith. Fig. 3 is a plan view through the line *y*, *y*, Fig. 2.

Similar letters of reference indicate corresponding parts in all the figures.

A is a car truck provided with the swing bolster B supported by the cross bars or transoms C in the usual manner. The bottom bearing plate D, secured to the swing bolster B by the bolts *e*, is provided with the annular beveled track *a*, on which the conical rollers *b* travel. To the body bolster E is secured the bearing plate F, provided, on its under surface, with the annular beveled track *d*, corresponding to the annular track *a* of the bottom plate D. The upper annular track *d* rests upon the conical rollers *b*, which, in turn, rest upon the annular track *a*, as described.

G is an intermediate, movable or swiveling plate located between the lower and upper plates D, and F, and is provided with a central orifice which allows said plate G to pass over and fit loosely around, the annular upward projection *f* of the bottom plate D. The movable plate G is provided with openings *g* corresponding to and passing partly over, the rollers *b*, and also with bearings *h*, which rest upon the central shafts or bearing pins *i* of the rollers *b*. Thus it will be seen, the movable plate G is held in a central position by the upward annular projection *f*, of the plate D, but is free to revolve in a horizontal plane. At the same time, as will be seen by inspection, the said movable plate G holds the rollers *b* in a fixed position relatively to each other, and keeps them in proper position with reference to the annular tracks *a* and *d*, while allowing said rollers to travel freely in either direction upon and between said annular tracks. The central shafts or pins *i* of the rollers *b* fit into the recesses or sockets *l* of the movable plate G and said plate is provided with lugs *k* at either side of said recesses *l*, as shown.

The lugs *k* are provided with holes *m* in which are inserted split pins or other keys *r*, said pins passing under the shafts *i* to keep said rollers *b* in place in the movable plate G, even while the latter is removed from its position between the plates D and F. The upper plate F is provided with the central downward projection *n* which fits into the socket *t* of the upward projection *f* of the bottom plate D and swivels freely therein on a vertical axis. The plate F is also provided with the annular flange *p* which fits over the corresponding annular flange *q* of the bottom plate D. Thus, it will be seen, the bearing plate F, secured to the car body, is held firmly in position relatively to the bearing plate D secured to the car truck, while said plates are permitted to swivel freely relatively to each other on the intermediate rollers *b*. The plates F, D and the intermediate plate G all swivel relatively to each other on a concentric vertical axis. The king bolt H, may be passed through the body bolster E, swiveling plates F, D, and swing bolster B, in the usual manner, if deemed desirable or necessary to keep the various parts more securely together.

The rollers *b* are made of conical shape since this form causes them to travel naturally around the annular tracks *a*, *d*; whereas any other form of periphery would cause them to tend to go off at a tangent, thus causing considerable friction to keep them in place.

It will be observed that instead of making the tracks *a*, *d* in complete circles, they may, in some cases, be made in sections of circles. It is only necessary that the tracks for the respective rollers should be long enough to provide for the extreme movement of said

rollers, where the movement of the same is limited.

Thus my invention embodies a practical roller bearing between the car body and truck which greatly reduces the friction between the two when the truck swivels on the car body.

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

1. In a car truck, the combination of the upper and lower bearing plates, each provided with an annular track, rollers inserted between said plates and traveling between and upon said annular tracks and an intermediate plate, made of one piece of metal, inserted between said upper and lower plates and swiveling concentrically therewith, said intermediate plate riding upon said rollers and holding the same in a fixed position relatively to each other but permitting them to travel freely on said annular tracks, said intermediate plate being provided with means for keeping said rollers and plate together when out of operative position, substantially as described.

2. In a car truck, the combination, substantially as described, of upper and lower bearing plates, anti-friction rollers between the same, and a movable plate made of one piece of metal, between said bearing plates and riding upon said rollers, said movable plate swiveling concentrically with the swiveling center of the car truck and keeping said rollers in proper relative position, said movable plate being provided with pins arranged to keep said plate and rollers together when out of operative position.

3. The swiveling plate G provided with the openings *g* and recesses *l*, in combination with anti friction rollers inserted in said openings and having bearings in said recesses, and pins arranged to keep said rollers in position in the bearings of said plate G, substantially as described.

4. The plate G provided with the openings *g* and recesses *l*, in combination with anti friction rollers inserted in said openings and having bearings in said recesses, and pins passing through portions of said plate under or adjacent to, the shanks of said rollers, and arranged to secure said rollers loosely in position in said plate, substantially as described.

5. In a railroad car or truck, the combination, substantially as described, of the upper plate F, the lower plate D, the anti friction rollers *b* between said plates, and the plate G swiveling concentrically with said plates F and D, said plate G resting upon and controlling the position of said rollers *b*, and pins adjacent to the shanks of said rollers and arranged to keep said plate and rollers together.

6. The plate G provided with the openings *g* and recesses *l*, in combination with anti friction rollers *b* inserted in said openings and having bearings in said recesses, said plate G being provided, adjacent to said recesses, with perforated lugs *k* and pins or keys passing through said perforated lugs, substantially as and for the purpose described.

7. In a car truck, the upper and lower bearing plates F and D provided with interlocking flanges or projections of sufficient depth to secure said plates from relative lateral displacement, anti friction rollers located between said plates, an intermediate retaining plate resting upon portions of said rollers and keeping them in proper relative position, and pins arranged to secure said rollers loosely in said retaining plate, substantially as described.

WILLIAM ROBINSON.

Witnesses:
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GEORGE A. FREEMAN.