J. J. BYERS.

TRUCK BOLSTER AND CAR TRUCK.

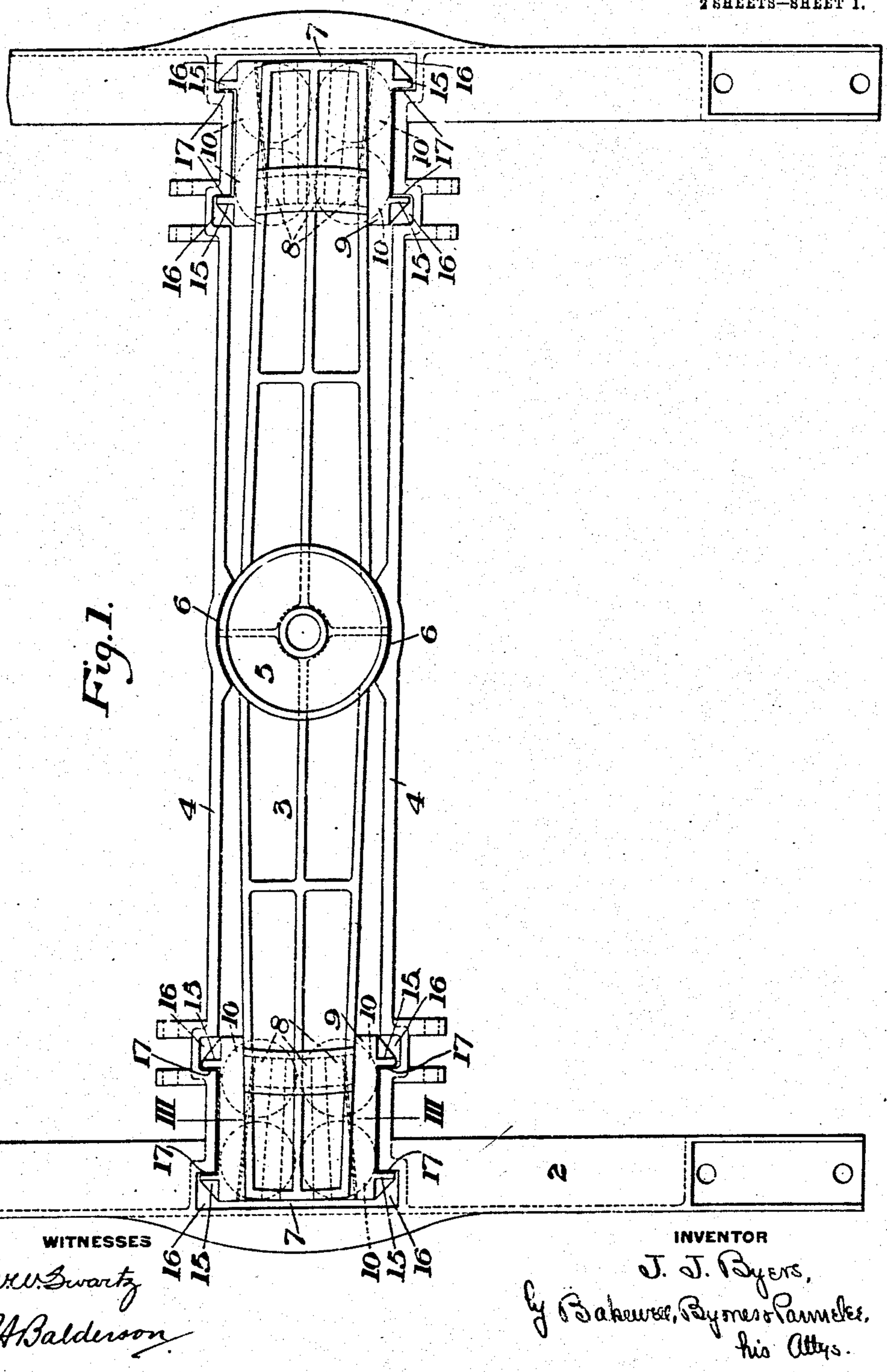
APPLICATION FILED JULY 10, 1908.

919,690.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

W. W. Swartz

R. A. Balderson

INVENTOR

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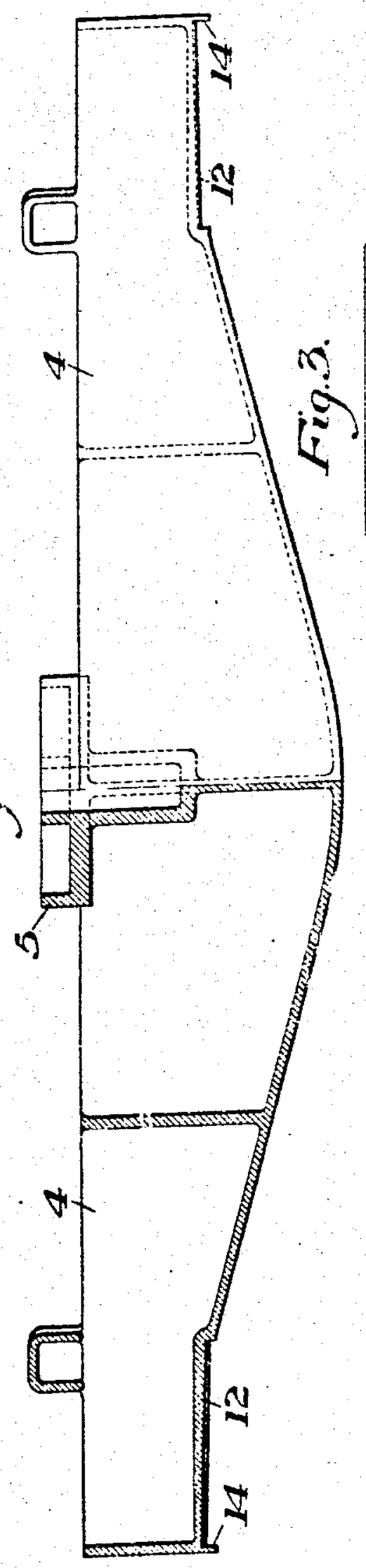

Fig. 2.

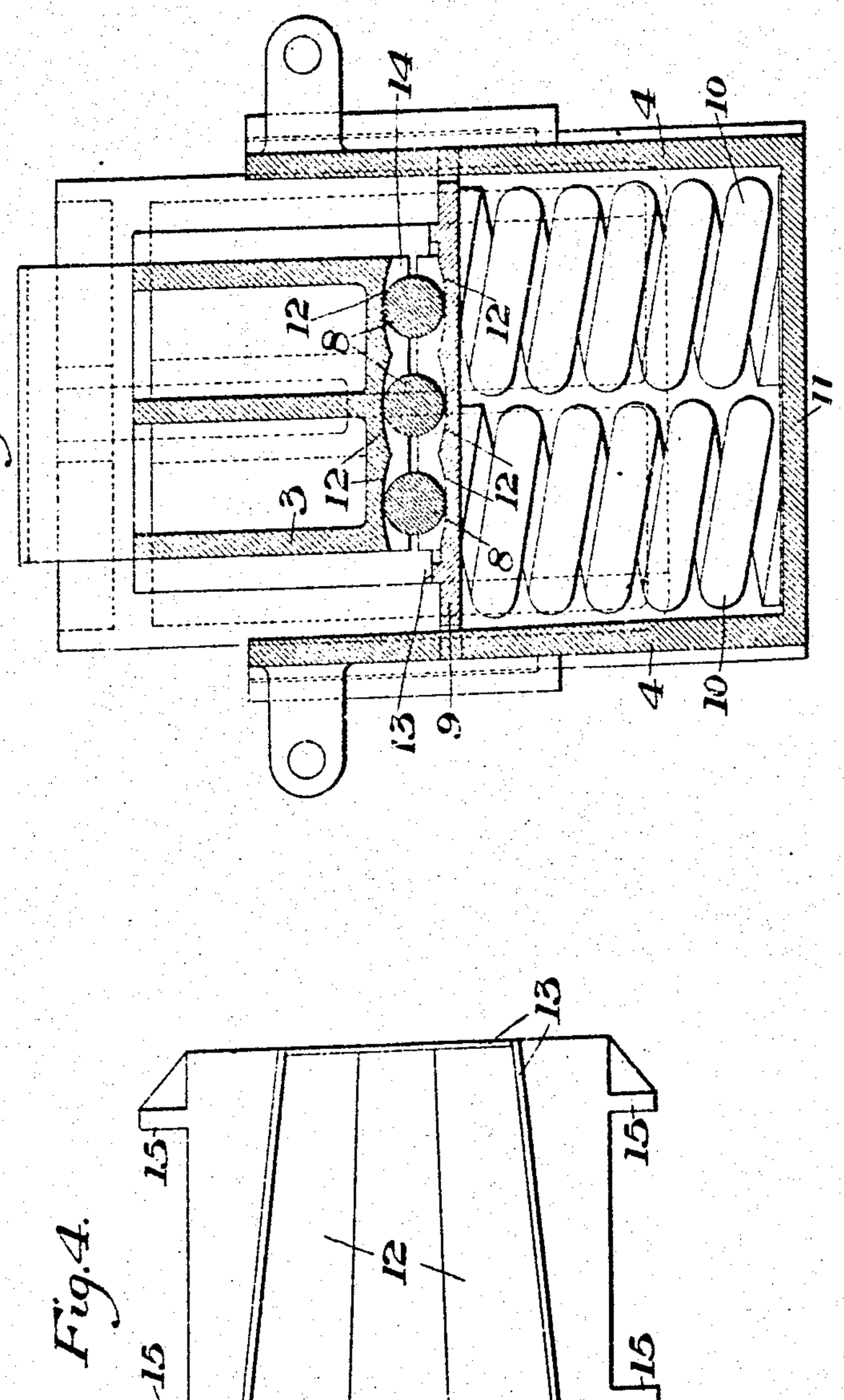

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

JACOB J. BYERS, OF CAMERON, MISSOURI, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

TRUCK-BOLSTER AND CAR-TRUCK.

No. 919,690. Specification of Letters Patent. Patented April 27, 1909.

Application filed July 10, 1908. Serial No. 442,831.

To all whom it may concern:

Be it known that I, JACOB J. BYERS, of Cameron, Clinton county, Missouri, have invented a new and useful Improvement in Truck-Bolsters and Car-Trucks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my improved construction; Fig. 2 is a vertical section of the bolster; Fig. 3 is a section on the line III—III of Fig. 1; Fig. 4 is a plan view of the spring plate.

My invention relates to truck bolsters and car trucks and has for its object to provide a bolster which will allow the car truck to pass around curves without the usual binding effect between the truck and the car which is incident to bolsters and trucks of ordinary construction. I accomplish this object by a swinging bolster adapted to be supported at its ends by roller bearings.

My invention can be best understood by reference to the drawings. In these drawings, Figs. 1, 2, 3 and 4, 2 is the car truck frame which is preferably cast in a single integral piece, although it may be of any suitable construction.

3 designates the bolster, which is seated between the cross or transom bars 4 of the truck frame and which is formed with a cylindric center bearing portion 5 which bears at opposite sides in the concave surfaces 6 of the cross bars 4. The bolster is of less transverse width than the distance between the bars 4, and tapers toward its ends which extend into pockets 7 in the side members of the truck frame. The end portions of the bolster are each seated upon a series of tapered or conical rollers 8, which bear on a plate 9 which is supported on a series of coiled springs 10. These springs are seated at their lower ends on the bottom wall 11. The under surfaces of the bolster ends are slightly tapered to form bearing surfaces for the rollers, and these surfaces and also the upper surfaces of the spring plates 9 are formed with concavities or depressions 12 for the rollers 8 which prevent the massing of the rollers. Said plates are also provided with the limiting ribs or flanges 13 of the rollers; and the under sides of the bolster ends have corresponding flanges 14. The plates are also provided with the lateral projections 15 at their end portions which extend into the offset 16 in the walls of the pockets 7 and in the cross-bars 4, and engage the shoulders 17 formed by said offsets, thereby holding the plates against movement. The bottoms of the offset 16 are closed to form stops which by engagement with the projections 15 serve to limit the downward travel of the bolster and act as a safety device to keep the bolster from dropping in case the spring should break.

In operation, the bolster has a limited swinging movement between the bars 4 in rounding curves, the ends of the bolster moving on the rollers 8. By reason of the concavities or depressions 12, the rollers will return to their normal spaced positions as soon as the car reaches a straight track. This keeps the rollers normally central in the respective depressions and prevents massing thereof.

Many changes may be made in the construction shown and my invention may be applied to car and truck bolsters of many types, without departing from my invention, since

What I claim is:

1. A truck bolster mounted to swing about a vertical central axis and supported at its end portions in the car truck upon conical roller bearings, said car truck having a plate with depressions therein adapted to receive said roller bearings, and said truck bolster having bearing portions at its end with depressions therein corresponding to the depressions of the plate in the car truck; substantially as described.

2. A car truck having a bolster mounted thereon to swing about its central vertical axis, rollers underneath the end portions of the bolsters, plates upon which the rollers bear, and springs seated on the truck frame and supporting said plates; substantially as described.

3. A car truck having cross bars or transoms cast in one piece with its side frames, and forming a bolster pocket between them, and a bolster seated in said pocket and arranged to have a limited radial swinging movement therein; substantially as described.

4. A car truck having cross bars or transoms cast in one piece with its side frames, forming a bolster pocket between them, a bolster seated in said pocket and arranged to have a limited radial swinging movement therein, together with roller bearings mount-

ed on said frame and carrying the ends of the bolster; substantially as described.

5. In a car truck, a bolster having a central bearing on the truck frame arranged to have a limited swinging movement on said bearing independently of the movements of the truck frame, spring-supporting means for the end portions of the bolster, and means for limiting the downward movement of the bolster; substantially as described.

6. A truck bolster mounted to swing about a vertical central axis, in combination with conical roller bearings supporting the end portions of the bolster, a plate for the rollers having depressed portions therein adapted to receive said rollers, said bolster having bearing portions at its end with depressions therein corresponding to the depressions of the plate; substantially as described.

In testimony whereof, I have hereunto set my hand.

JACOB J. BYERS.

Witnesses:
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CHARLES J. BERGSTROM.