

No. 750,348.

PATENTED JAN. 26, 1904.

E. CLIFF.
CAR TRUCK BOLSTER AND BEARING THEREFOR.

APPLICATION FILED JULY 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

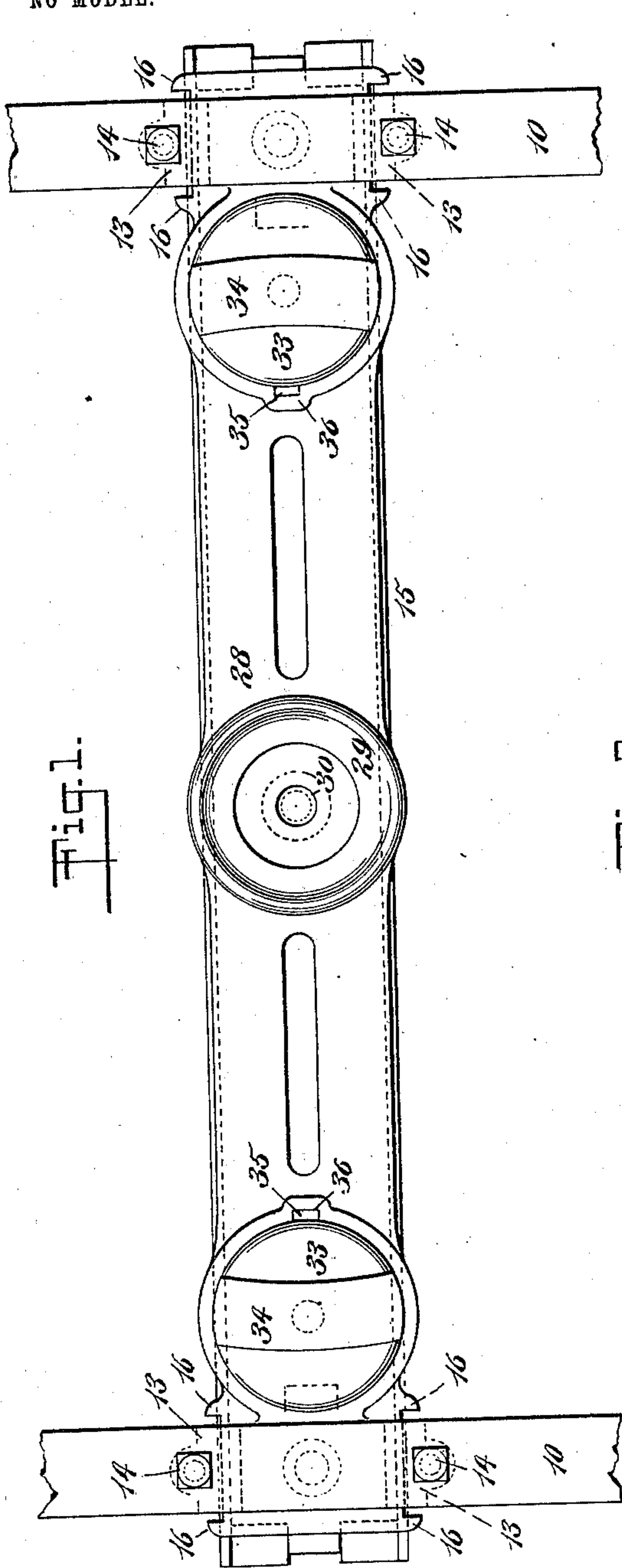


Fig. 1.

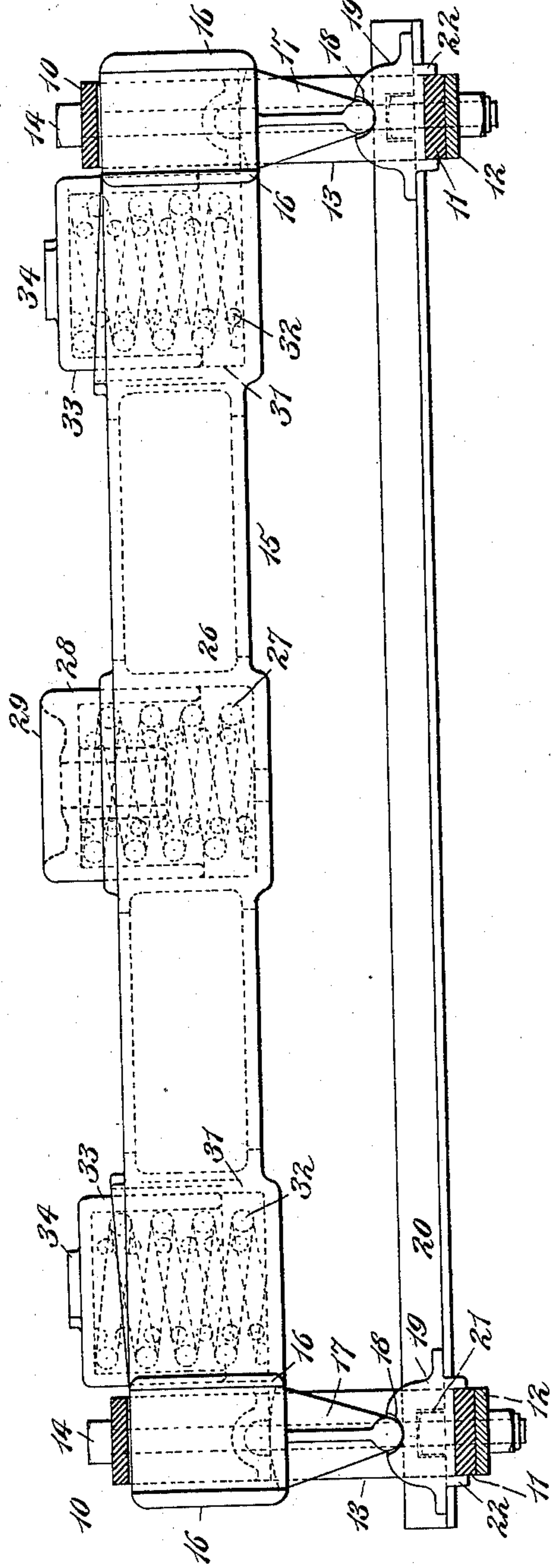


Fig. 2.

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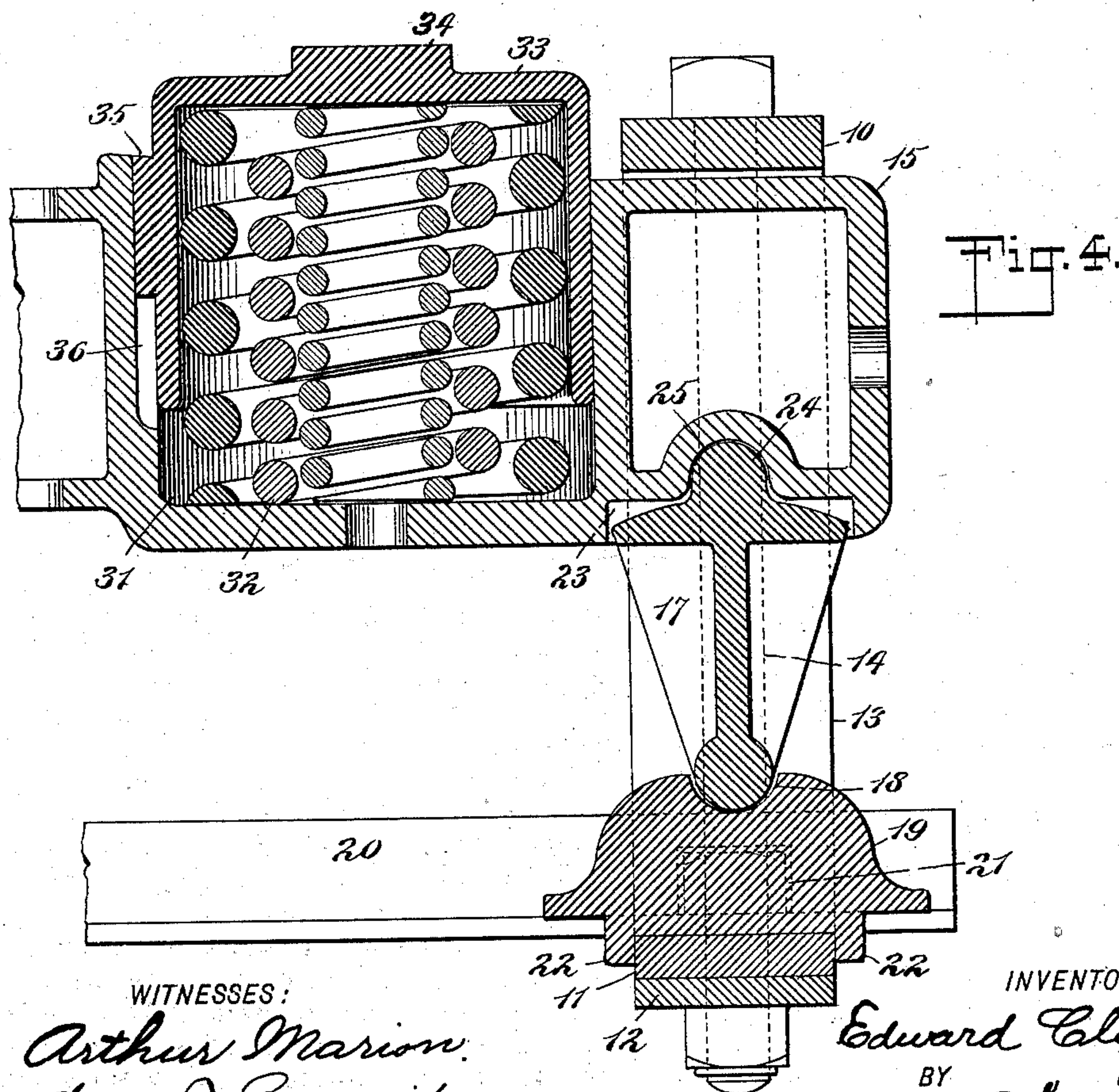
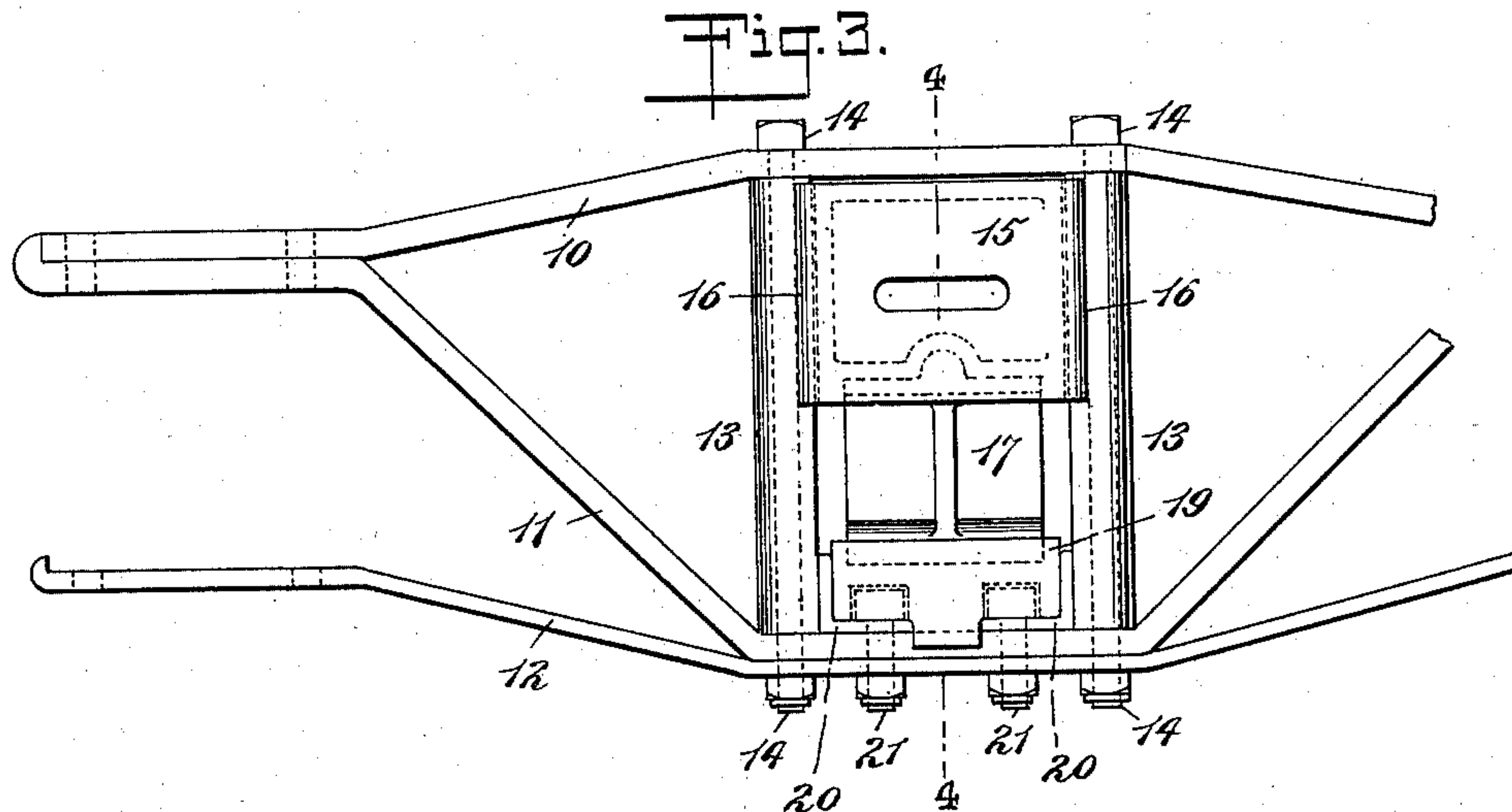
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UNITED STATES PATENT OFFICE.

EDWARD CLIFF, OF NEWARK, NEW JERSEY, ASSIGNOR TO VOSE AND CLIFF MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

CAR-TRUCK BOLSTER AND BEARING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 750,348, dated January 26, 1904.

Application filed July 23, 1902. Serial No. 116,646. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CLIFF, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Truck Bolsters and Bearings Therefor, of which the following is a specification.

The invention relates to improvements in car-truck bolsters and bearings therefor; and it consists in the novel features and combinations of parts hereinafter described, and particularly pointed out in the claims.

The object of the invention is to produce a laterally-movable or floating car-truck bolster which shall support the car-body at its center and opposite sides upon yielding bearings or plates, so that the car-body shall be spring-supported, said bolster being provided at its center with a spring-supported center plate and at its ends with spring-supported plates to receive the side portions of the car-body. The ends of the bolster will be supported upon antifriction-bearings, and these bearings will preferably be in the form of segmental rockers, whose upper ends will engage the ends of the bolster and whose lower ends will be held in sockets supported from the lower bars of the side frames.

In the present application I have illustrated my invention as applied to an ordinary diamond truck; but the truck forms no part of my present invention, which is confined to the special bolster and its antifriction or rocker supports.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of a car-truck bolster constructed in accordance with and embodying my invention, a portion of the side frames of the truck being illustrated. Fig. 2 is a vertical transverse section through the truck, the section being taken at one edge of the bolster, whereby the latter becomes shown in side elevation. Fig. 3 is a side elevation of a portion of a car-truck side frame of ordinary construction with my invention ap-

plied thereto, and Fig. 4 is an enlarged vertical transverse section through the truck-frame and bolster at one side of the truck on the dotted line 4 4 of Fig. 3.

In the drawings I illustrate my invention applied to any ordinary diamond truck-frame comprising an upper arch-bar 10, lower arch-bar 11, tie-bar 12, columns 13 13, and bolts 14 14, extending through the said bars and said columns for securing the latter in place.

My present invention is not confined to any special truck-frame, but pertains solely to the construction of the bolster and the supports for the ends thereof.

The bolster is numbered 15 and by preference will be in the form of a hollow casting extending transversely across the truck and having at its ends the vertical shoulders or ribs 16 16, between which are surfaces which may engage and rub against the facing sides of the columns 13 and which ribs project outwardly at the outer and inner edges of said columns 13 to form stops and restrain the bolster against undue movement transversely of the truck, but which being normally free of the columns 13 will allow of a desired amount of movement of said bolster transversely of the truck.

The bolster 15 is substantially free of the truck-frame and rests at its ends upon rocker-bearings 17, which have segmental upper surfaces to engage the lower surfaces of the ends of the bolster and at their lower ends are rounded in line with the length of the truck and seat in sockets 18, formed in the upper surfaces of the rigid blocks 19, supported by the side frames, and whose purpose is to afford a suitable base and bearing for the rockers 17. The sockets 18 do not closely hug the lower rounded ends of the rockers 17, but flare outwardly at their opposite sides from said ends, so as to allow the rockers 17 to perform an oscillatory movement in said sockets 18 without unduly rubbing against the surfaces of said sockets and without creating unnecessary friction. The blocks or bases 19 are recessed upon their lower sides to fit over the lower arch-bar 11, the transom-beams 20, and the heads of the bolts 21, by which the tran-

som-beams, lower arch-bar, and tie-bar are fastened together. The blocks or bases 19 are also formed with the downwardly-extending flanges 22, which pass downward along the
 5 opposite edges of the lower arch-bar 11 to aid in retaining said blocks or bases in position.

The upper segmental ends of the rockers 17 enter box-like recesses 23, formed in the lower sides of the ends of the bolster 15, as shown
 10 in Fig. 4, and at the center of their upper surfaces the said rockers 17 are formed with an upwardly-projecting rounded stud 24, which freely enters a corresponding recess 25, formed in the bolster, the purpose of the recess 23 be-
 15 ing to confine the upper end of the rockers 17 and of the stud 24 and recess 25 being to connect the bolster and rockers so that they may have a harmonious movement with each other and that the bolster when returning to its nor-
 20 mal position may return the said rockers to their normal upright position. The weight of the bolster is on the upper segmental ends of the rockers 17 and not on the studs 24.

The bolster 15 is not in the preferred construction supported upon springs, which is
 25 usual in this art, but upon rigidly-sustained antifriction-bearings, such as the rockers 17, which will permit of the bolster having a proper lateral movement without undue fric-
 30 tion.

At the center of the bolster 15 is formed the vertical recess 26, within which are the coiled springs 27 and which receives in a tele-
 35 scopic manner the sides of a cap 28, whose upper surface 29 constitutes a center bearing-plate having a vertical opening 30 to receive the usual king-bolt. The center plate 29 is therefore supported upon springs 27 and is
 40 formed with a central aperture to receive the king-bolt, it being my purpose that the center of the car-body shall be spring-supported instead of being supported upon a rigid center plate.

Within the ends of the bolster 15 are formed
 45 the recesses 31, within which are confined the coiled springs 32 and which in a telescopic manner receive the lower portions of the caps 33, which bear upon the springs 32 and at their upper ends afford supporting-surfaces
 50 for the car-body. The caps 33 are prevented from rotating within the recesses 31 by reason of the keys 35 formed thereon and entering vertical grooves 36 in the side walls of said recesses 31. The caps 33 correspond sub-
 55 stantially with the central cap 28, with the exception that the cap 28 is not held against rotation and is conformed at its upper end to act as a center plate, while the upper ends of the caps 33 are adapted to receive the impact
 60 of the car-body or parts connected therewith.

The bolster 15 receives the car-body upon the cap 28 and caps 33, said car-body and the load being thus spring-supported at its center and opposite sides by the bolster, and the
 65 said bolster is at its ends supported in the

preferred construction upon the rockers 17, which permit of the lateral movement of the bolster, such movement being limited by the vertical shoulders or ribs 16 and the edges of the columns 13 adjacent to said ribs. 70

Upon the upper surfaces of the caps 33 may be applied suitable side bearings, and in the present instances said caps are shown as hav-
 ing segmental rubbing or bearing surfaces 34 for engagement with the usual rub-irons on 75 the body-bolster.

I regard the hereinbefore-described integral bolster, having the central and end sup-
 ports for the car-body and to take the load, as a new article of manufacture, and hence do 80 not wish to confine the invention in every instance to the rockers 17 or to any other means for supporting the bolster. Should a condition arise requiring a double set of springs for the car, the bolster constructed as de- 85 scribed above may have its ends supported upon the usual springs in the well-known manner, although ordinarily the bolster will obviate the necessity for using the customary
 90 springs and will in itself afford the required springs and may be placed upon rigid supports.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The bolster having at its center the recess, the spring therein and the cap entering said 95 recess and bearing on said spring and forming at its upper end the center bearing, and having adjacent to its ends the recesses, the springs therein and the caps entering said recesses and bearing on said springs and constituting at 100 their upper ends the supports for the sides of the car-body, combined with antifriction-supports for the ends of said bolster, whereby the bolster is allowed a limited movement transversely of the car-truck; substantially as 105 set forth.

2. As a new article of manufacture, the here-
 inbefore-described integral car-truck bolster having at its center the recess, the spring there- 110 in and the cap entering said recess and bearing on said spring and forming at its upper end the center bearing-plate, and having within its end portions the recesses, the springs therein and the caps entering said recesses and bear- 115 ing on said springs and constituting at their upper ends the supports for the sides of the car-body, said spring-supported caps being arranged on a plane adapting them under the normal running conditions of the car to take 120 substantially uniformly upon themselves the weight of the car-body and its load; substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 22d day of July, A. D. 1902.

EDWARD CLIFF.

Witnesses:

CHAS. C. GILL,
 ANNA V. BRODERICK.