R. G. TAYLOR.

RAILWAY TRUCK.

APPLICATION FILED MAR. 6, 1917.

1,243,007. Patented Oct. 16, 1917.

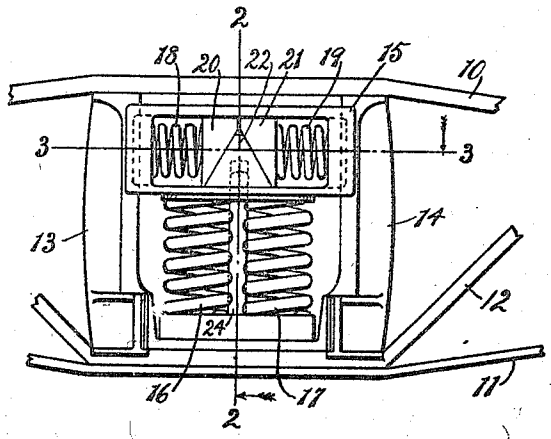


Fig. 1.

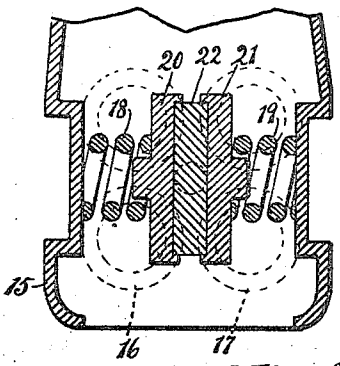


Fig. 3.

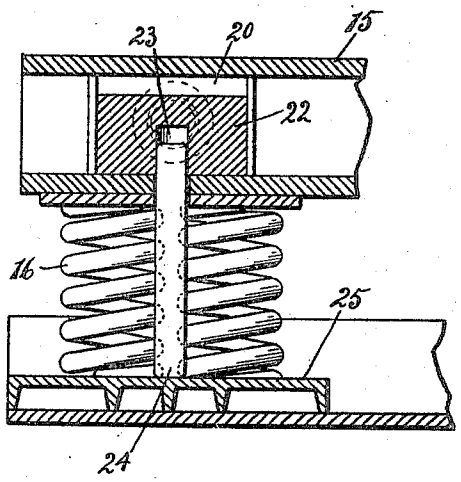


Fig. 2.

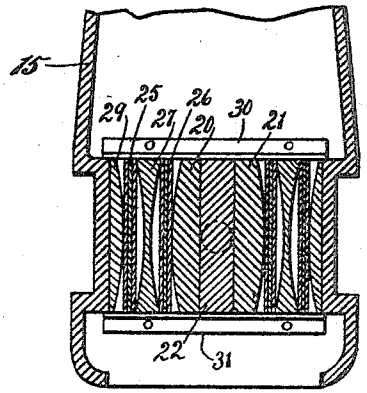


Fig. 4.

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UNITED STATES PATENT OFFICE.

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RAILWAY-TRUCK.

1,243,007. Specification of Letters Patent. Patented Oct. 16, 1917.

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To all whom it may concern:

Be it known that I, RALPH G. TAYLOR, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Railway-Trucks, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The object of the invention is to provide auxiliary cushioning elements for supporting the truck bolster; and it consists in a chambered bolster with a combination of friction and spring elements housed therein, together with means for actuating these elements from a fixed part of the truck frame.

The invention is generically the same as the structure forming the subject of an application for patent filed by myself concurrently with this application.

While the invention is capable of embodiment in a variety of forms, two preferred forms of construction are hereinafter described and illustrated in the accompanying drawings, in which—

Figure 1 is a detail side elevation of a truck embodying the invention;

Fig. 2 is a sectional detail on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 1; and

Fig. 4 is a similar view showing a different form of construction.

The frame of the truck may be of any desired form, and is here shown as comprising top and bottom members 10, 11, and an intermediate member 12; pedestals 13, 14, being secured between the members 10, 12.

The bolster may be of any desired form providing it be hollow or chambered, and is in sliding engagement with the pedestals 13, 14, and supported on springs, as 16, 17, here shown as helical in form and four in number, as is the more common practice.

In the development of railway appliances for adapting them to increasingly heavy service, it has been difficult to provide suitable truck springs. If the springs are of sufficient strength to carry the maximum load, they possess little or no resiliency when the car is empty or but partially loaded, and as a result the jarring action is exceedingly detrimental to the car and the liability of the car to jump from the track is increased. Furthermore, cars intended for the transportation of a certain class of lading become useless for carrying heavier freight.

The present invention provides for a wider range of service by supplementing the usual truck springs by means of cushioning elements introduced into the bolster, and which may be arranged as herein shown to come into action only when the car is heavily loaded.

To this end there is, as shown in Figs. 1, 2 and 3, housed within the bolster 15 a pair of helical springs 18, 19, which bear, respectively, against the side walls of the bolster and at their inner ends against a pair of wedge-blocks 20, 21, the inner inclined faces of which flare downwardly. Between the blocks 20, 21, there is located a wedge-block 22, having two inclined faces and being capable of vertical movement for the purpose of spreading the blocks 20, 21, and compressing the springs 18, 19. The block 22 is recessed in its lower face, as shown at 23, and within this recess is fitted the upper end of a thrust pin 24, which pin extends through a suitable aperture in the bottom wall of the bolster and rests upon the spring seat 25 which supports the main truck springs 16, 17. If desirable the length of the pin 24 may be such that normally its upper end is out of contact with the bottom of the recess 23, so that the cushioning elements and the bolster are not called into action until the springs 16, 17, are partially compressed.

When, therefore, the car is empty or but lightly loaded, these cushioning elements are not called upon to perform any function. Under heavy loads the bolster is depressed, bringing the central wedge-block into bearing engagement with the upper end of the pin 24, and further downward movement of the bolster results in a spreading of the wedge-blocks 21, 22, this action being resisted by the friction between the several blocks and by the springs 18, 19.

If desired leaf or plate springs may be used in lieu of the helical springs 18, 19. In the construction illustrated in Fig. 4, plate springs, as 25, 26, are shown, these plates being illustrated as arranged in two pairs of groups at each side of the wedging elements and there being interposed between coöperating groups a double concave block 27. The outer face of each of the outer

wedge-blocks, as 28, is shown as convex and having a bearing upon the adjacent group 26 of spring plates, and a spring seat 29 is shown as interposed between the outer group 25 of spring plates and the side wall of the bolster. Upon the downward movement of the bolster the outer wedging elements are spread, thereby bending the spring plates to concave form and causing a frictional resistance between the plates of each group. Lateral displacement of the cushioning elements within the bolster, lengthwise thereof, may be prevented by securing across the top of the bolster stop lugs, such as the angle plates 30, 31.

In the construction of Figs. 1, 2 and 3, the several wedge blocks are shown as having interlocking faces, and the entire group of elements is held against lateral displacement by the pin 24.

I claim as my invention—

1. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster, and means actuated by downward movement of the bolster for compressing the cushioning mechanism.

2. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster comprising wedging elements and springs, and means actuated by downward movement of the bolster for compressing the cushioning mechanism.

3. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster comprising wedging elements and springs, and a thrust pin interposed between one of the wedge elements and the frame.

4. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster comprising a pair of wedge-blocks having downwardly flaring inner faces, a triangular central wedge-block, and springs interposed between the first-named wedge-blocks and the side walls of the bolster, and a thrust pin interposed between the central wedge-block and the frame.

5. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster comprising a pair of wedge-blocks having downwardly flaring inner faces, a triangular central wedge-block and springs interposed between the first-named wedge-blocks and the side walls of the bolster, and a thrust pin interposed between the central wedge-block and the frame and having lost motion therebetween.

6. In a car truck, in combination, a suitable frame, a bolster having side walls, a spring support for the bolster carried by the frame, cushioning mechanism reacting between the side walls of the bolster comprising a pair of wedge-blocks having downwardly flaring inner faces, a triangular central wedge-block and helical springs interposed between the first-named wedge-blocks and the side walls of the bolster, and a thrust pin interposed between the central wedge-block and the frame.

RALPH G. TAYLOR.