

No. 680,516.

Patented Aug. 13, 1901.

E. S. WOODS.  
CAR TRUCK.

(Application filed Apr. 22, 1901.)

(No Model.)

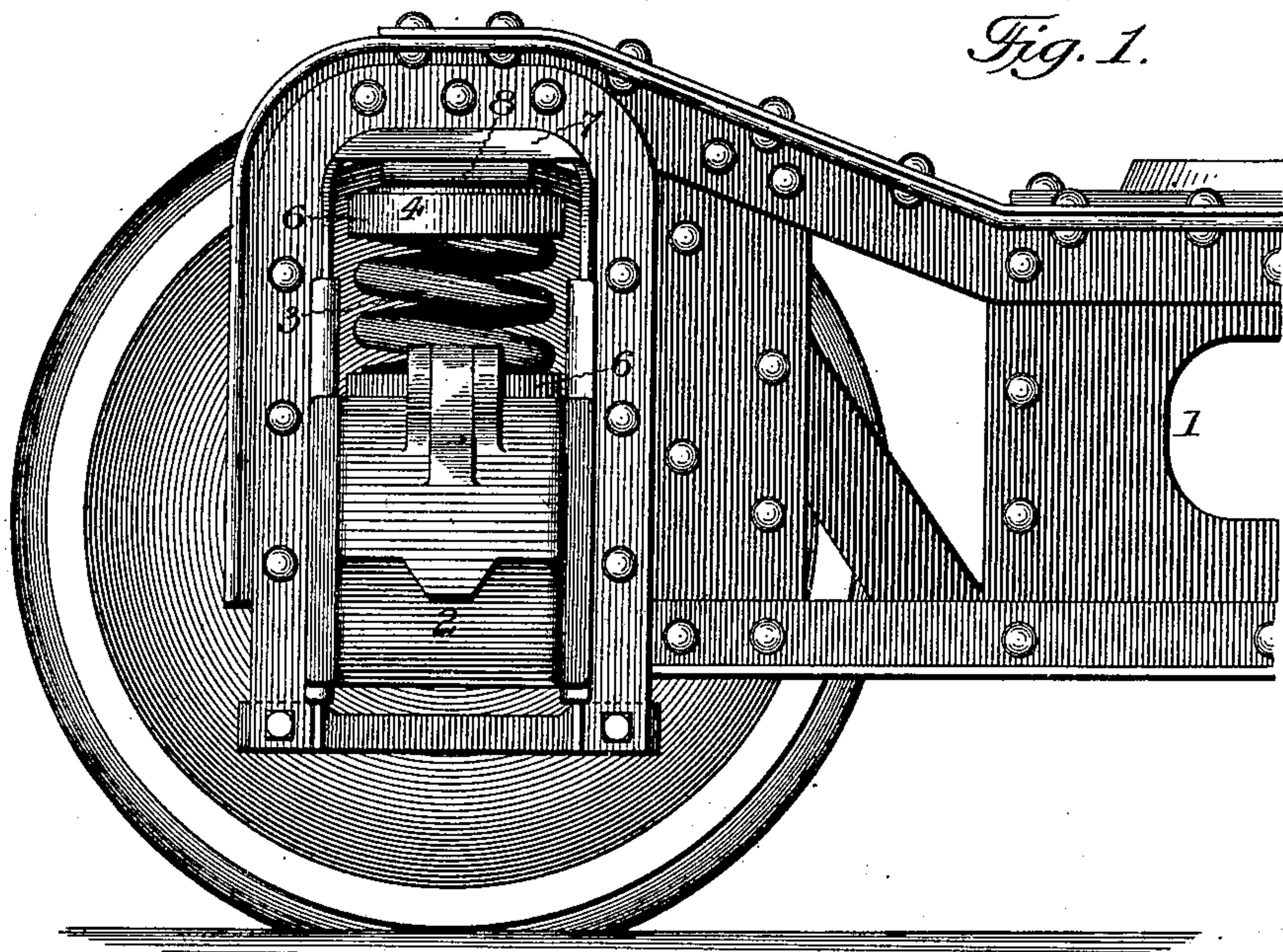


Fig. 1.

Fig. 2.

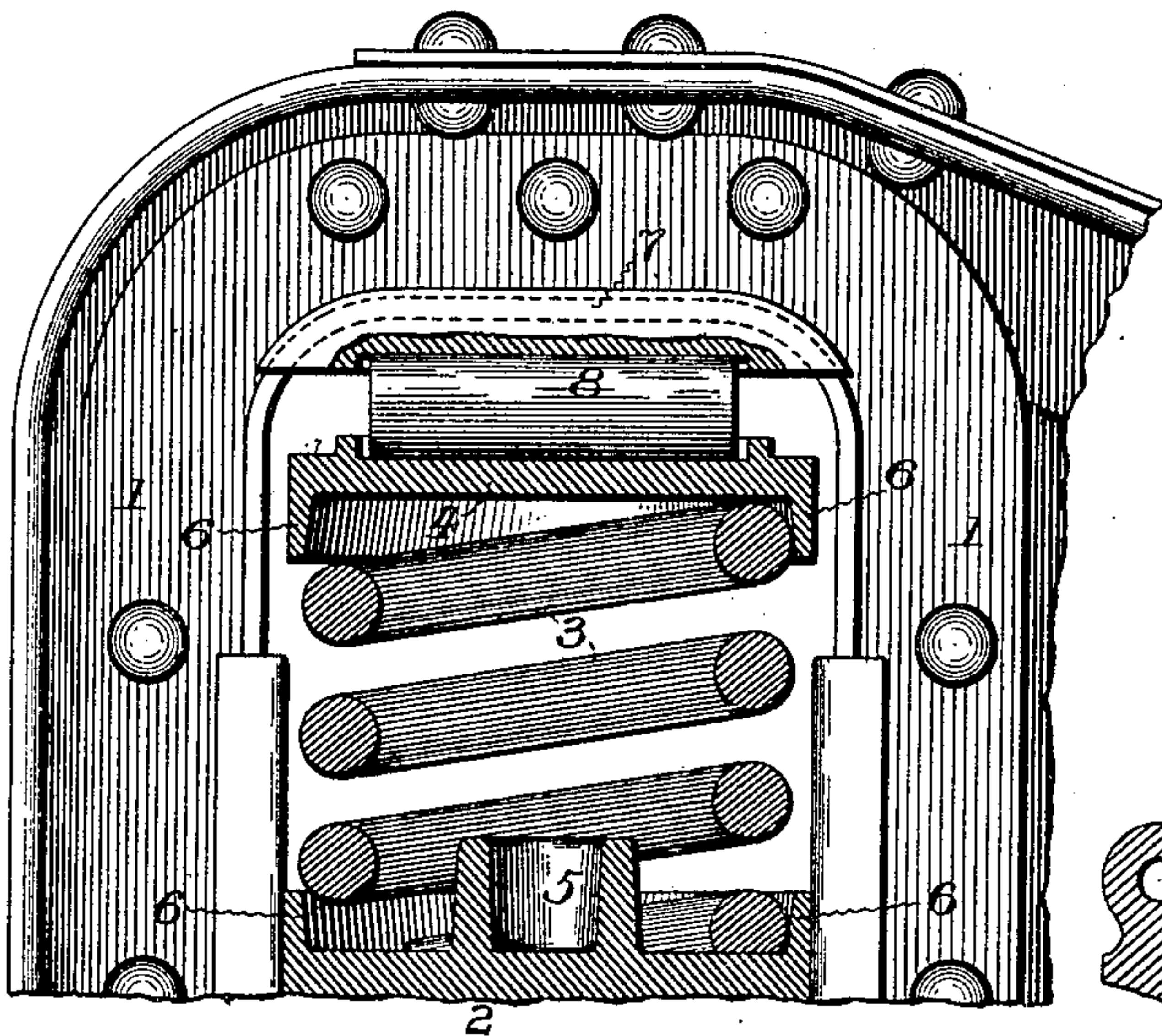
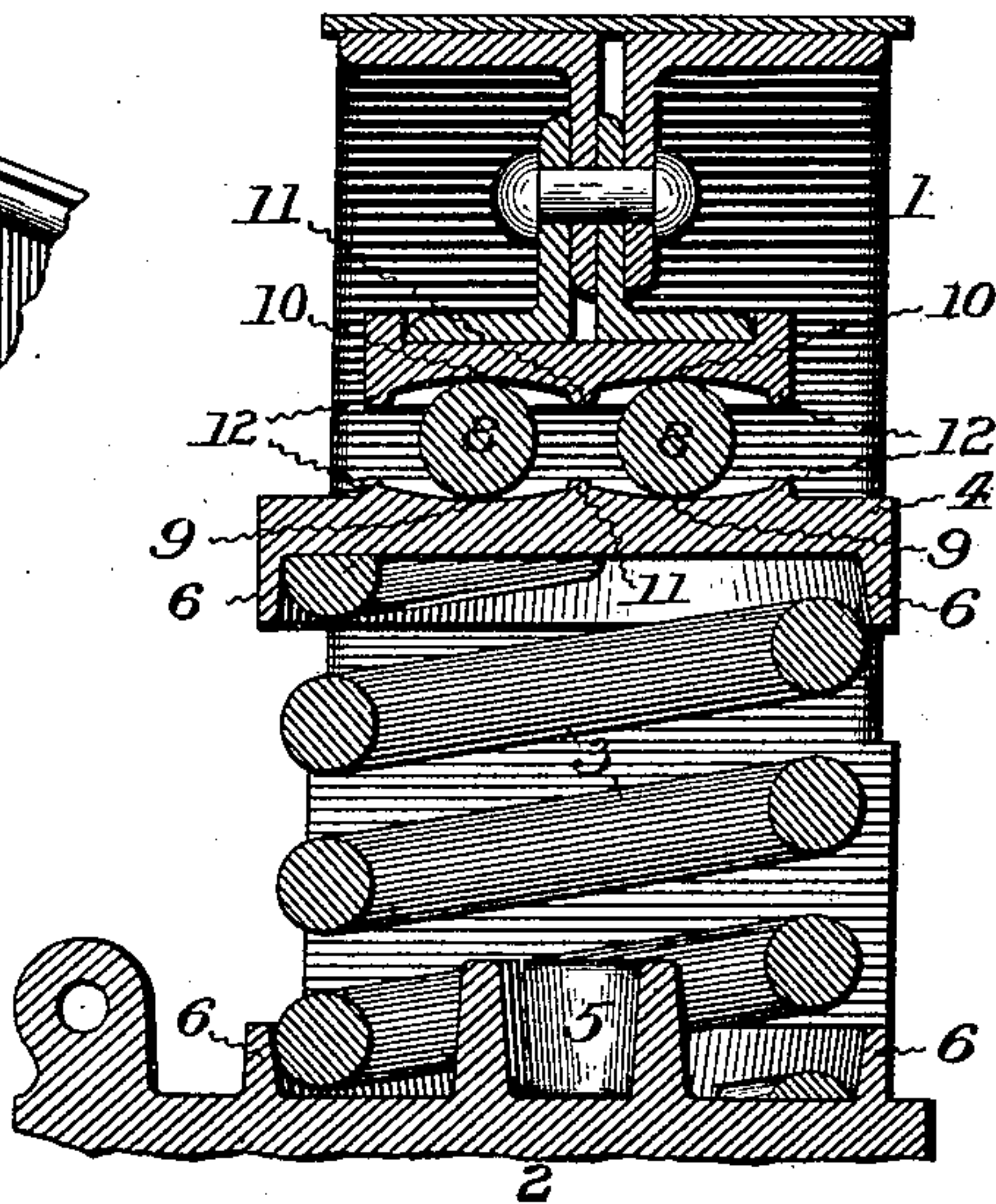


Fig. 3.



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# UNITED STATES PATENT OFFICE.

EDWIN S. WOODS, OF CHICAGO, ILLINOIS.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 680,516, dated August 13, 1901.

Application filed April 22, 1901. Serial No. 56,913. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN S. WOODS, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

The present invention relates to that class of car-trucks in which the axles are adapted to have independent lateral movement in the truck-frame proper to compensate for irregularities in the track, with a view to lessen or prevent excessive lateral strain upon the wheel-flanges and the consequent wear of the same, as well as a liability to fracture.

The object of the present improvement is to provide a simple and efficient connection between the different axles, boxes of the axles, and the side frames of the truck, which will permit of the free and independent vertical as well as lateral movements of the wheels to compensate for irregularities in the track, and with which the tendency will be to return the parts after any such movement to a relative and normal position with relation to each other, all as will hereinafter more fully appear and be more particularly pointed out in the claims. I attain such object by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a fragmentary side elevation of a car-truck embodying the present improvement; Fig. 2, an enlarged detail side elevation with parts in section; Fig. 3, an enlarged central transverse section taken centrally on Fig. 2.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents one counterpart half of the side frame or pedestal of a car-truck provided with the usual downwardly-opening recess, in which the axle-box 2 is located, the construction being such that the car-axle, with its axle-box, is capable of a free lateral movement within a prescribed range in addition to the usual vertical movement in said axle-box-containing recess of the truck frame or pedestal.

2 is the axle-box of any usual construction, guided in the opening therefor in the truck-

frame and adapted to have the before-described movements in the same.

3 is a spring by which the truck or pedestal is yieldingly supported on the axle-box. Such spring may be of any usual and preferred form. The familiar spiral form of spring is shown in the drawings for the sake of illustration and as affording a wide bearing for the ends of the spring best adapted for the perfect operation of the present invention. In the present improvement the spring 3 is interposed between the upper surface of the axle-box 2 and a spring or bearing cap 4, located in a vertical plane above the spring and axle-box, and the said spring is held in position against lateral displacement by receiving-sockets for the ends thereof, formed by central bosses 5 and annular rims 6 on the aforesaid parts.

7 is a crown-piece secured to the upper or crown portion of the axle-box-receiving recess of the pedestal and having a separated vertical relation above the spring or bearing-cap 4.

8 represents a twin set of bearing-rollers arranged between the respective lower face of the crown-piece 7 and the upper face of the spring or bearing-cap 4 and in a direction longitudinal of the frame or pedestal and adapted to form a frictionless bearing upon which the bearing-cap 4 can move independent of the crown-piece 7 in a lateral movement of the car-axle and box with relation to the pedestal. In the present improvement the opposed faces of the crown-piece 7 and the spring or bearing-cap 4 are formed with counterpart pairs of curved or dished recesses 9 and 10, adapted to form the tracks or bearing-surfaces for the twin set of bearing-rollers 8 and individual thereto, as shown, the curved or dished form of such tracks or surfaces being intended in the present construction to insure a return of the parts to a normal and central relation after a lateral movement to one side or the other.

In my preferred construction, as shown in Fig. 3 of the drawings, each of the curved tracks or recesses 9 and 10 will be separated by a central stop rib or flange 11 and be provided with end flanges or ribs 12, which are adapted to act as stops at the limit of the nor-



mal lateral movement of the car-axle and box in one direction or the other and in so doing will afford a prescribed and limited lateral movement to the axle and axle-box with respect to the truck frame or pedestal to prevent excessive pressure of the wheel-flanges against the rails and the excessive wear and liability to fracture of said wheel-flanges under the heavy loads usually carried.

10 With the present improved construction, as shown in the drawings, the twin set of bearing-rollers 8 are adapted to have bearing entirely within a zone of a much less area than that of the bearing or supporting spring 15 3, and in consequence the liability of a canting of the parts during actual use is reduced to a minimum and the proper movement of the parts insured in a very efficient manner.

Another important advantage resulting from the above-described arrangement is that the bearing upon the rollers is in a direct manner, and in consequence affords a strong and durable connection of the parts.

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

1. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-piece and adapted to afford independent lateral movement to the axle-box, substantially as set forth.

35 2. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-piece in a central zone of a less area than the supporting-spring, and adapted to afford independent lateral movement to the axle-box, substantially as set forth.

45 3. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-

piece and adapted to afford independent lateral movement to the axle-box, the opposed faces of the bearing-cap and crown-piece being formed with curved or dished recesses forming tracks for the rollers and individual thereto, substantially as set forth.

4. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-piece in a central zone of a less area than the supporting-spring, the opposed faces of the bearing-cap and crown-piece being formed with curved or dished recesses forming tracks for the rollers and individual thereto, substantially as set forth.

5. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-piece and adapted to afford independent lateral movement to the axle-box, the opposed faces of the bearing-cap and crown-piece being formed with curved or dished recesses forming tracks for the rollers, and having end stop flanges or ribs, substantially as set forth.

6. The combination with a car-truck, and an axle-box, of a supporting-spring, a spring-bearing cap, a crown-piece attached to the truck-frame, and a pair of twin rollers interposed between the bearing-cap and the crown-piece in a central zone of a less area than the supporting-spring, the opposed faces of the bearing-cap and crown-piece being formed with curved or dished recesses forming tracks for the rollers and having end stop flanges or ribs, substantially as set forth.

Signed at Chicago, Illinois, this 20th day of April, 1901.

EDWIN S. WOODS.

Witnesses:

ROBERT BURNS,  
HENRY A. NOTT.