

No. 865,501.

W. F. KIESEL, JR.

PATENTED SEPT. 10, 1907.

MOTOR TRUCK.

APPLICATION FILED MAR. 25, 1907.

2 SHEETS—SHEET 1.

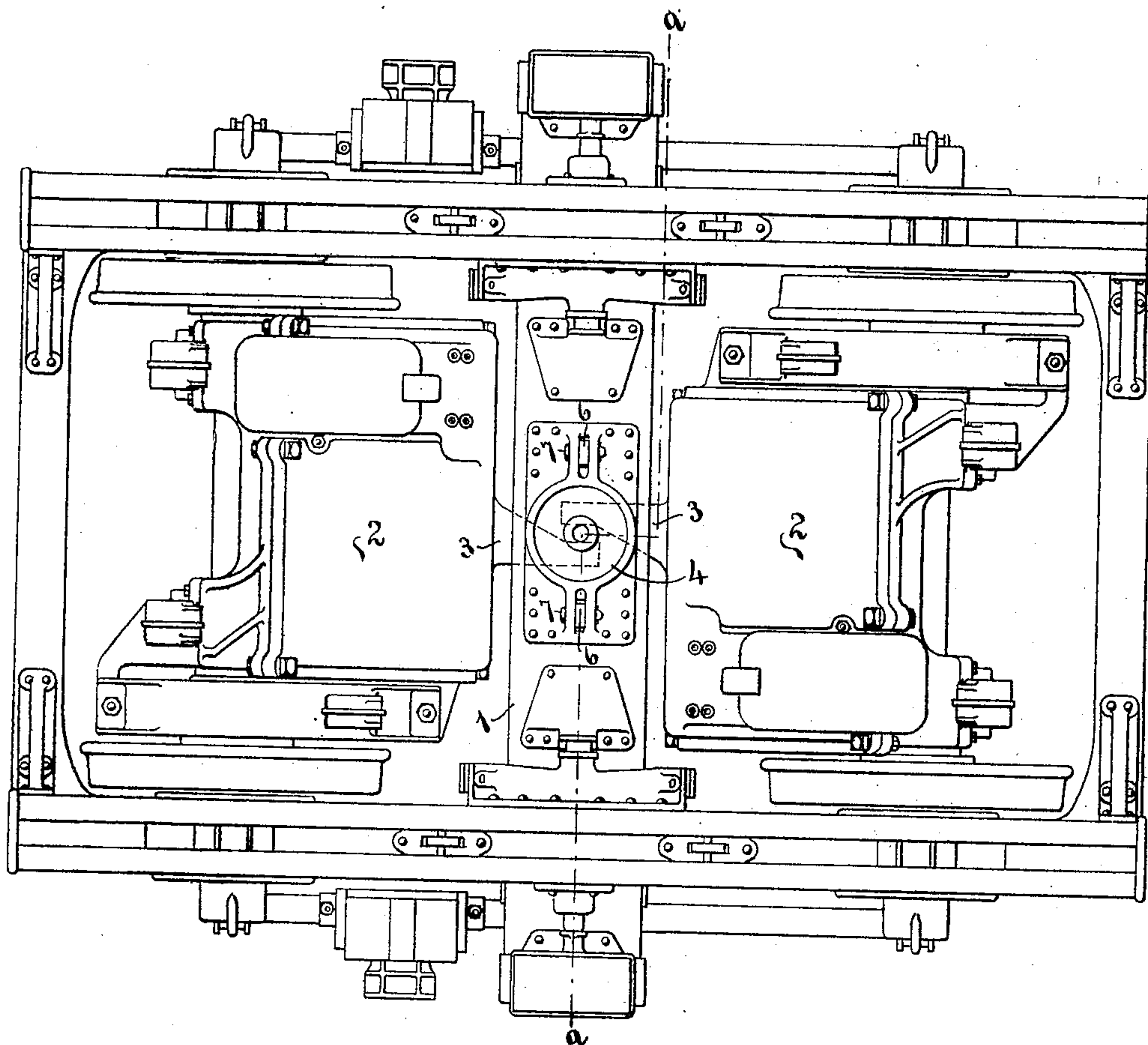


Fig. 1.

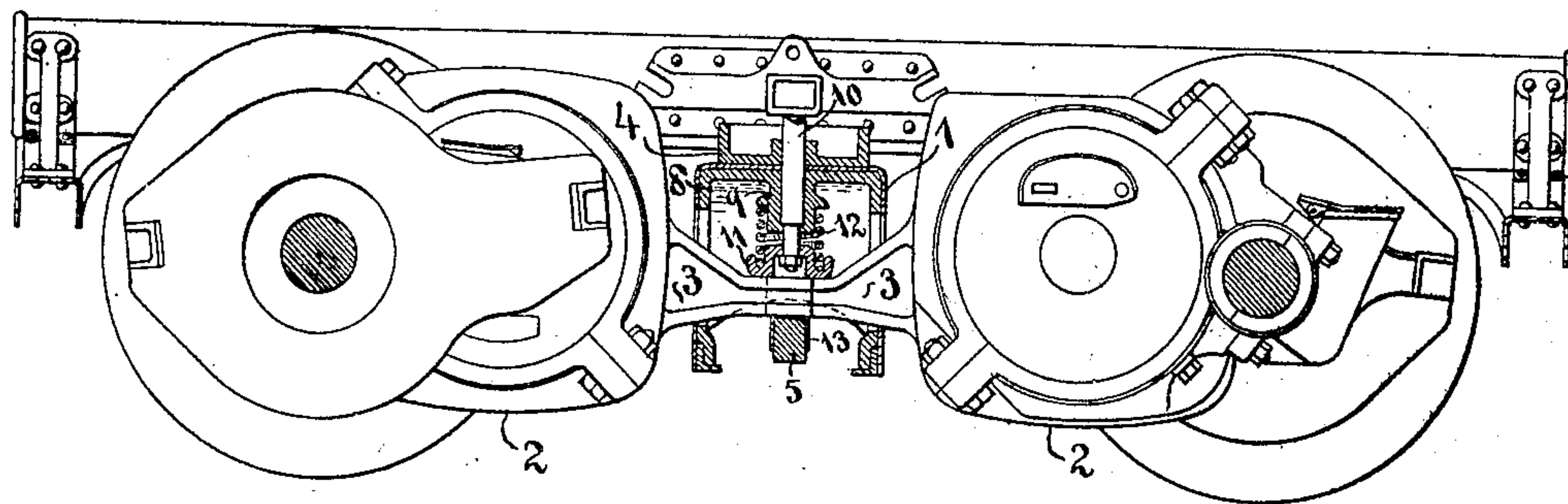


Fig. 2.

WITNESSES:

M. E. Verbeck.  
L. V. Koeltgen.

INVENTOR

William F. Kiesel, Jr.

BY

Eugene Aiven  
ATTORNEY

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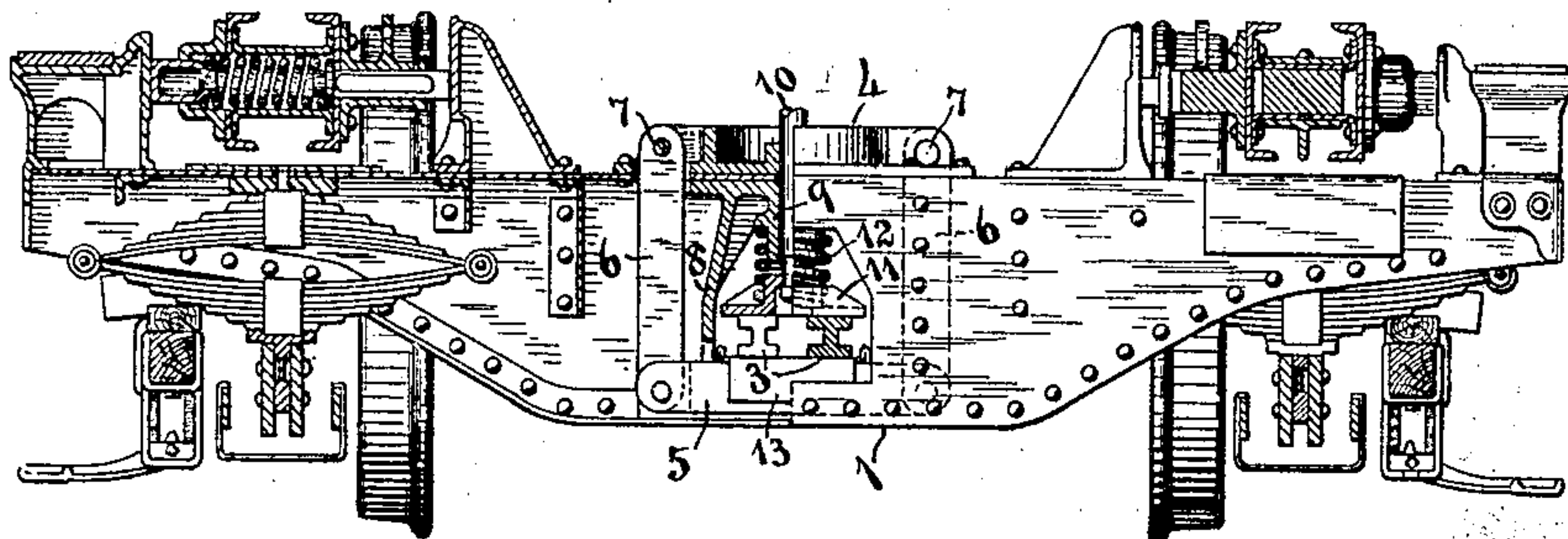


Fig. 3.

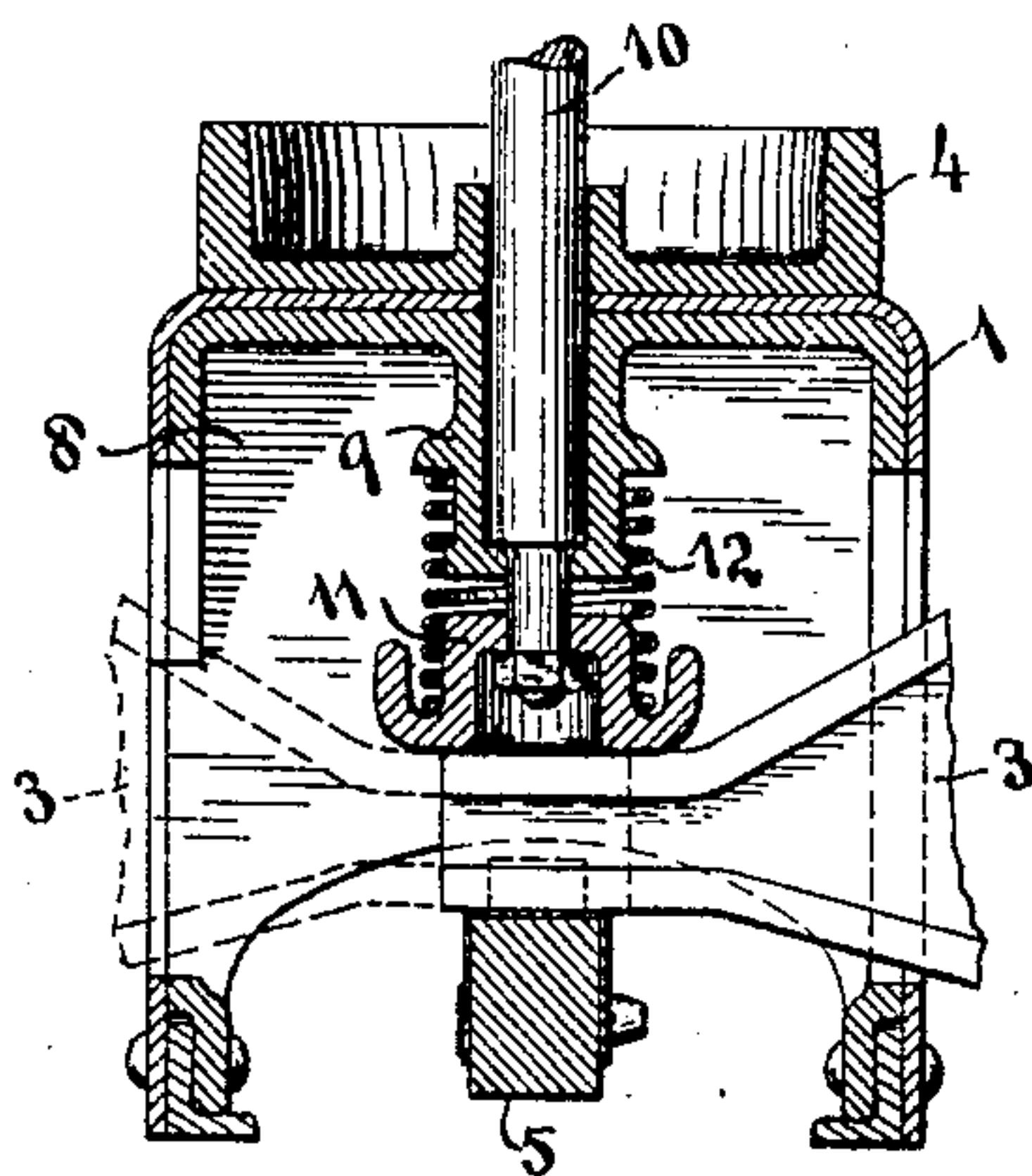


Fig. 4.

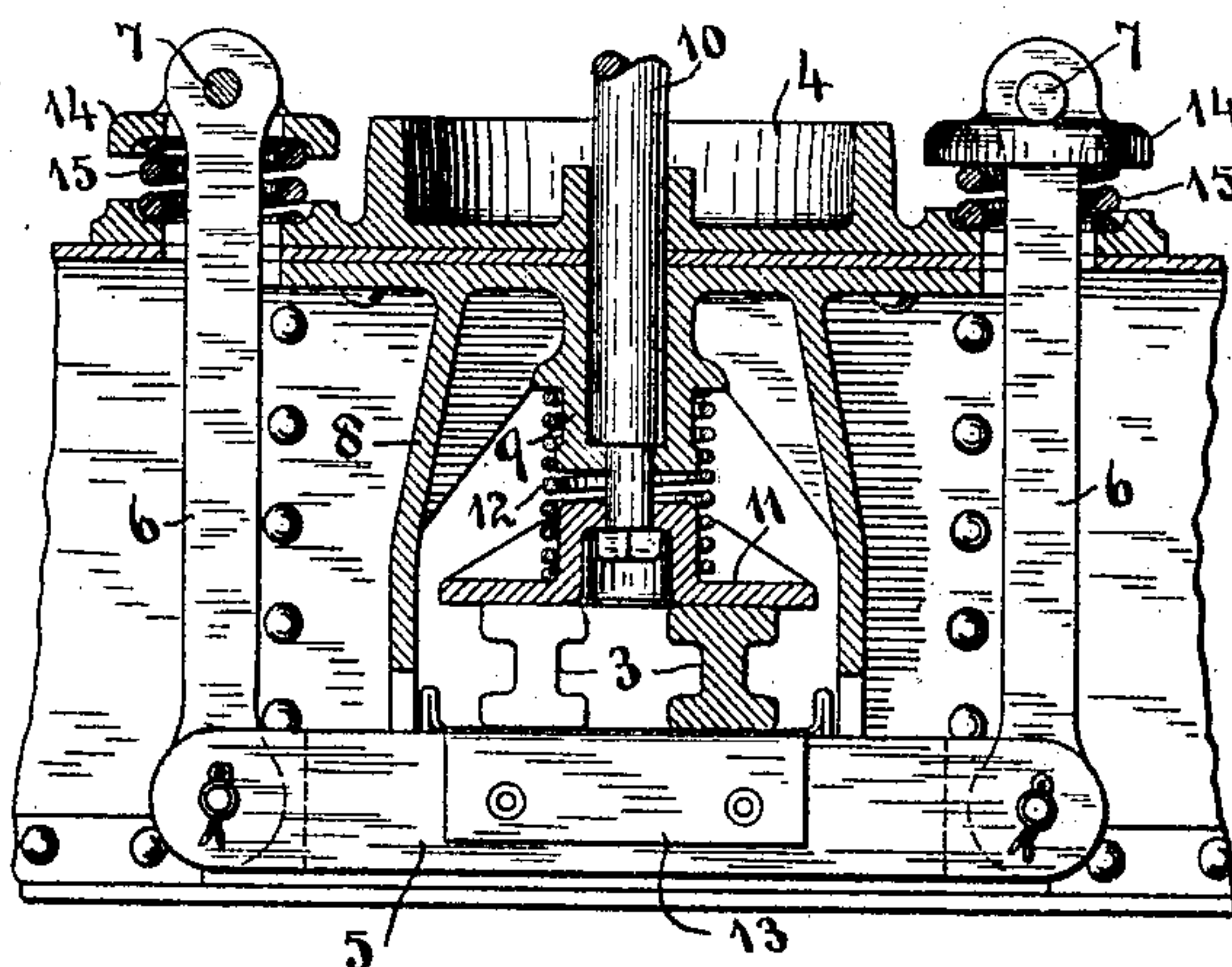


Fig. 5.

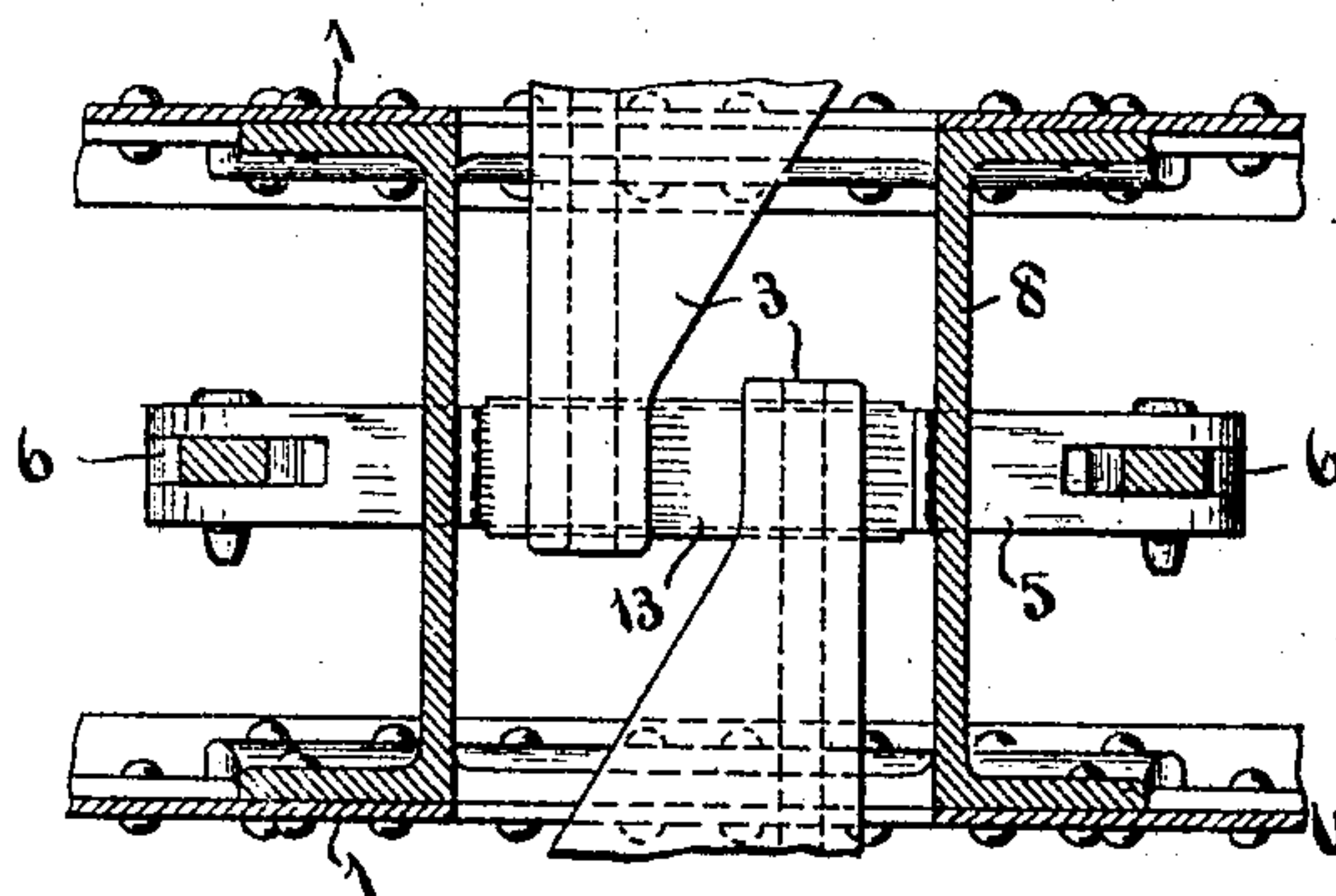


Fig. 6.

WITNESSES:

*M. E. Verbeck.*  
*L. V. Moeltgen*

INVENTOR

*William F. Kiesel, Jr.*

BY

*Eugene A. Diven*  
ATTORNEY



# UNITED STATES PATENT OFFICE.

WILLIAM F. KIESEL, JR., OF ALTOONA, PENNSYLVANIA.

## MOTOR-TRUCK.

No. 865,501.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed March 25, 1907. Serial No. 364,481.

*To all whom it may concern:*

Be it known that I, WILLIAM F. KIESEL, Jr., a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Motor-Trucks, of which the following is a specification.

This invention relates to improvements in the method of hanging the motor frames upon the trucks of electric railway cars.

Heretofore it has been the practice to support the "noses" of the motor frames upon transoms which pass across the truck at each side of the bolster. This method of hanging introduces a couple into the forces brought into play upon the truck when the motors are in motion, which causes the wheels to be loaded irregularly, and also produces a tipping action upon the truck frame, according to the direction in which the car is running.

My object is to overcome this objectionable feature by so constructing the truck and arranging the noses that the points of support therefor shall be directly under the center line of the center-plate.

I attain my object by arranging the parts in the manner illustrated in the accompanying drawings, in which I have shown the motor frames applied to a truck such as described in my Letters Patent No. 800,921, dated October 3, 1905; and in which—

Figure 1 represents a plan view of the truck, with two Westinghouse motors applied thereto; Fig. 2, a longitudinal sectional view showing the truck bolster cut at the center and the axles cut at the ends of the motor frames; Fig. 3, a transverse vertical section of the truck on the line *a—a* in Fig. 1; and Figs. 4, 5, and 6, detail sectional views of the truck bolster and nose support on a larger scale.

Like numerals designate like parts in the several views.

As described in my said Letters Patent, the bolster 1 is formed of a steel plate bent into U-shaped cross section, so hung on the wheel pieces as to have freedom for vertical and lateral motion with respect to the wheel pieces, and consequently, to the wheels. The motor frames 2 are mounted upon the axles in the usual manner, one at each side of the bolster; but, instead of providing the frames with noses resting upon transoms carried by the wheel pieces, I provide the frames with noses 3, positioned lower down upon the frames, and extending through openings provided therefor in the sides of the bolster to points directly beneath the center-plate 4. Directly below the transverse center line of the center-plate is hung a suspension bar 5, upon the upper side of which the ends of the noses 3 rest, said noses being so formed as to pass by one another on opposite sides of the vertical center of the truck. The suspension bar is hung from the center-plate by means

of the links 6, which are coupled by pins 7 to supporting cars formed on the center-plate; said links passing downward through slots provided therefor in the center-plate and bolster shell. This link suspension permits side play in the bolster without transferring said side play to the motor noses; as will be evident from an inspection of the drawings. This side motion of the bolster extends to about one and three-fourths inches on either side of the central position, and must be allowed for, since the noses must remain in central position; regardless of the swaying of the bolster.

To reinforce the bolster below the center-plate, I provide a ribbed casting 8, and at the center of the said casting I provide a downwardly extending sleeve 9, through which the king-bolt 10 passes. Below this sleeve is a plate 11, which rests upon the upper side of the noses 3, said plate being held in position by the reduced extension from the king-bolt, and spring 12 is introduced between a shoulder on sleeve 9 and said plate to press said plate upon the noses, holding them down upon the suspension bar with sufficient pressure to prevent chattering.

As there will be some side and end play of the noses upon the suspension bar, due to the side play of the axles in the boxes, I fasten to the top of said bar a wear-plate 13, the ends of which are turned up to limit the side motion of the noses upon the suspension bar.

As it may be desirable to introduce a cushioning effect between the bolster and the suspension bar, I may form the ears which receive the pin 7 separate from the center-plate, as upon the disks 14, as shown in Fig. 5; and introduce springs 15 between said disks and the center-plate.

While I have shown my improved nose suspension as applied to my said patented truck, it will be understood that I do not limit it to such application; since, by varying the arrangement and the manner of applying the parts, the device may be applied to other forms of trucks, without departing from the spirit of my invention.

What I claim and desire to secure by Letters Patent is—

1. The combination, with a car-truck having an independent bolster, of a motor-frame mounted upon one of the axles, a nose projecting from the frame opposite the axle, and a laterally movable support for the nose positioned beneath the center line of the bolster.

2. The combination, with a car-truck having motor-frames mounted upon the axles and provided with oppositely disposed noses, of a laterally movable suspension bar upon which the frame noses rest, said bar being positioned beneath and parallel with the transverse center line of the center plate of the truck.

3. The combination, with a car-truck having an independent bolster upon which the center plate is mounted, of motor-frames mounted upon the axles and provided with oppositely disposed noses, a suspension bar upon which the frame noses rest positioned beneath the center plate, and



links pivotally mounted on the bolster at each side of the center plate and coupled to said bar.

4. The combination, with a car-truck having an independent bolster upon which the center-plate is mounted, of motor-frames mounted upon the truck axles and provided with oppositely disposed noses adapted to lap past one another beneath the center-plate on opposite sides of the vertical center of the bolster, a suspension bar upon which the ends of the noses rest, and links coupling said bar to the bolster at opposite sides of the center-plate.

5. The combination, with a car-truck having an independent bolster upon which the center-plate is mounted, of motor-frames mounted upon the truck axles and provided with oppositely disposed noses adapted to lap past one another beneath the center-plate on opposite sides of the vertical center of the bolster, a suspension bar upon which the ends of the noses rest, links coupling said bar to the bolster at opposite sides of the center-plate, a plate resting upon the top of the noses over the suspension bar, a center-casting in the bolster beneath the center-plate provided with a sleeve, a king-bolt passing through said sleeve, a coiled spring mounted on the sleeve and pressing

upon the plate above the noses, and a projection from the king-bolt to engage and hold said plate in place.

6. The combination, with a car-truck having motor-frames mounted upon the axles, of a suspension bar for the frame noses positioned beneath the center-plate of the truck, links pivotally mounted on the truck bolster at each side of the center-plate and coupled to said bar at their lower ends, and a spring pressed plate resting upon the top of the noses above the suspension bar.

7. The combination, with a car-truck, having motor-frames mounted upon the axles, of a suspension bar for the frame noses positioned beneath the center-plate of the truck, and links pivotally mounted on spring supported bearings on the truck bolster at each side of the center-plate and coupled to said bar at their lower ends.

In testimony whereof I have affixed my signature, in presence of two witnesses.

WILLIAM F. KIESEL, Jr.

Witnesses:

FRANCIS N. PARIS,  
MARVIN W. SINGER.