

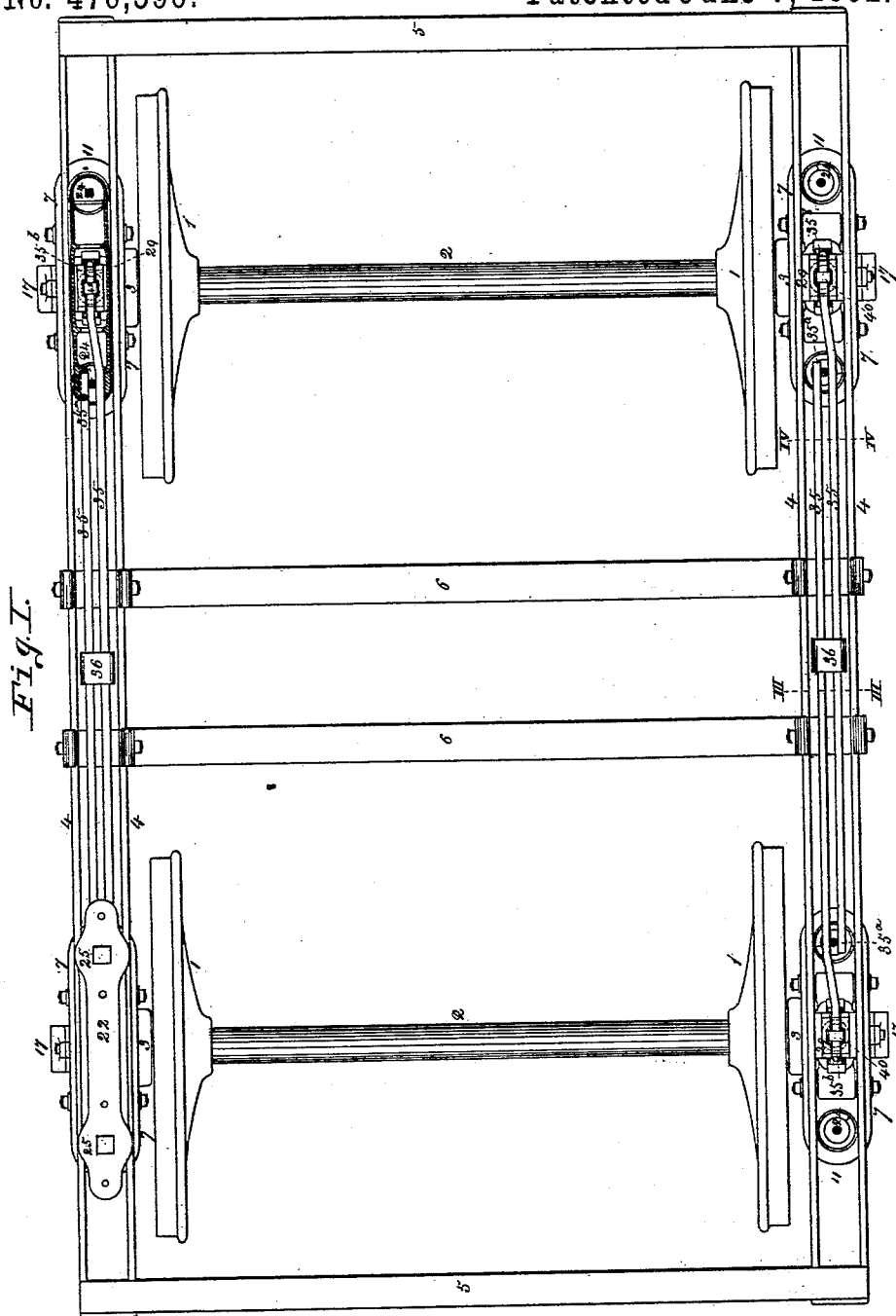
(No Model.)

2 Sheets—Sheet 1.

F. A. BAIER.
CAR TRUCK.

No. 476,596.

Patented June 7, 1892.



Witnesses:
Geo. E. Cress.
Harry E. Rohrer.

Inventor:
Frederick A. Baier.
By Knight Bros.
Atty.

(No Model.)

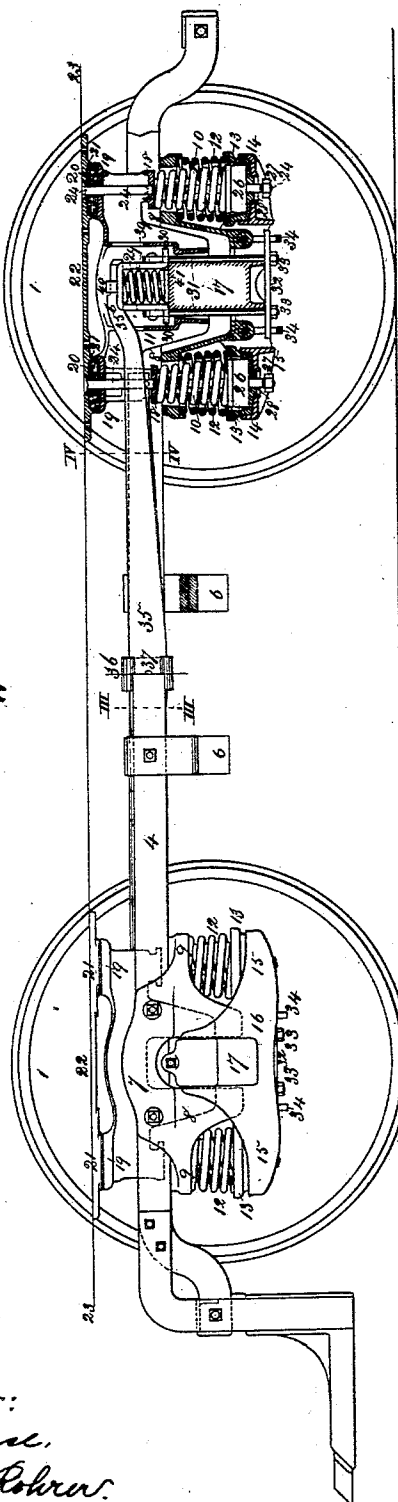
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Fig. II.



Witnesses:
Geo. E. Cruise,
Harry E. Rohrer.

Fig. IV.



Fig. V.

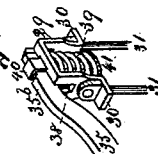
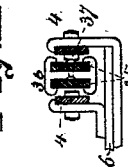


Fig. III.



Inventor:
Frederick A. Baier.
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UNITED STATES PATENT OFFICE.

FREDERICK A. BAIER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE BROWNELL CAR COMPANY, OF SAME PLACE.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 476,596, dated June 7, 1892.

Application filed February 25, 1892. Serial No. 422,778. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. BAIER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in 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.

This invention relates to means for checking the seesaw motion of the car-body, to means for giving independent support to the body and the truck upon the wheels, and the described means of allowing the disconnection of the wheels and axles from the rest of the car or the truck from the body.

The novel features of the invention are set forth in the claims.

Figure I is a top view of the truck with parts in horizontal section. Fig. II is a side elevation of the truck with part in longitudinal section. Fig. III is a detail transverse section taken at III III, Figs. I and II. Fig. IV is a detail transverse section taken at IV IV, Figs. I and II. Fig. V is a detail perspective view showing the end bearing of one of the anti-oscillating bars.

1 are the wheels, 2 the axles, and 3 the axle-boxes. These may have any ordinary or suitable construction.

The truck has two parallel metal bars 4 and upon each side, these bars being connected by end bars 5.

6 are cross-bars for support of a motor.

The side bars 4 5 are connected by bolts to the flanges 7 of the truck-pedestals 8. The pedestals 8 have side extensions 9, having an aperture for the passage of a spiral spring 10, on which the body-pedestal 11 rests. The extensions 9 rest on spiral springs 12, surrounding the springs 10 and out of contact with the same. The springs 10 and 12 rest at the lower end in a cup 13, that in turn rests within a cup 14 of the side extension 15 of the casting or shoe 16, having an oil-box 17. Thus it will be seen that the shoe is supported on the axle by means of a usual journal-box in the oil-box. The body-pedestal 11 has plates or inverted cups 18 that rest on the upper ends of the springs 10. (See Fig. II.) The pedestals

11 are between the side bars 4 and out of contact with them, so that the pedestals have free vertical play between the bars. The body-pedestals are preferably provided with cups 19, containing spring-blocks 20, whose tops rest in inverted cups 21 at the bottom of the sill-plate 22, which is bolted to the body-sill, the position of whose under side is indicated by the line 23 23.

24 are vertical bolts having square portions at the upper part. Each of the bolts 24 passes through the sill-plate 22, the plate or cup 18, and axially through the springs 10 and 12, and through a cup or block 26, in which the lower end of the spring 10 directly rests, also through the cups 13 and 14. Upon the lower end of the bolt 24 is a nut 27. The orifice 28 in the cup 14, through which the bolt passes, has size sufficient to allow the passage of the nut 27, so that the shoe 16 may be dropped off without removal of the nuts 27. The heads 25 of the bolts 24 rest on the sill-plates.

29 is a guide-standard in form of a bridge, whose lower ends 30 are turned outward horizontally, and through which pass vertical bolts 31, that pass down beside the oil-box and through a cross-bar 32, passing across the bottom of the oil-box.

33 are nuts on the bolts 31, bearing against the under side of the bar 32.

34 are stirrups swinging from the shoe 16 and surrounding the extended ends 32^a of the bar 32 and limiting the descent of the oil-box relatively to the shoe.

The upward movement of the body-pedestals 11 on the oil-box is limited by shoulders 11^a of the pedestals coming in contact with the extended ends 30 of the bracket 29. The upper ends of the bolts 31 are firmly attached to the standards, so as to hold them firmly in position.

35 are the anti-oscillator bars extending between the side bars 4 and 5 from pedestal to pedestal. One end 35^a of each bar rests in a recess of the body-pedestal at the opposite ends of the car-truck, respectively, (see Fig. II,) while the other end 35^b of each bar has bearing on the oil-box at the other end, and consequently one end of each bar has bear-

ing on attachment of the body and at the other end upon the axle. The bars 35 are pivoted together at about their mid-length by a clamp 36, as shown, or by other means. The clamp is connected to one bar by a pivot-bolt 37 and embracing the other bar so loosely as to allow the bars to oscillate upon each other at this point. The ends 35^b of each bar plays in a guide-slot 38 of the standard 29 and rests on a spiral or other spring 39. (See Fig. V.) 40 is a stay-bolt or shackle mortised at the upper part to allow the passage of the end 35^b. The shackle has a head 41, upon which rests the lower end of the spring 39, the upper end of the spring bearing beneath the top of the standard. Thus it will be seen that the spring is double-acting, checking both the descent and ascent of the end 35^b. The spring 39 may be dispensed with and the end 35^b have positive (or solid) connection with the oil-box; but it is preferred that there should be some elasticity to relieve jar and strain. This end may be accomplished by reducing the bar 35 near the end 35^b, so that it will be rendered sufficiently flexible to act as a spring, and thus the spring 39 may be dispensed with.

The action of the anti-oscillating bars may be explained as follows: The ends 35^b may be regarded as fixed, as they are connected to the axles through the grease-boxes. They have, in fact, a little movement by means of the springs 31. Though by means of the springs 31 the ends 35^b of the bars have a slight movement, for the purpose of the explanation, they may properly be regarded as fixed points, as they are connected to the axles by the means described. Now it will be seen that if either end of the car-body ascends the end 35^a, being directly connected to it, must rise too, and this would cause the elevation of the end 35^a of the other bar 35, which is at the other end of the car-body, thus the ends of the car-body must rise and fall together, and the seesaw motion or longitudinal rocking of the car is only possible to a small degree.

As the truck and body are supported on separate springs and the weight of the truck does not vary, the springs may be adjusted to a nicety and the relative position of the truck and axles be substantially the same at all times. The position of the body varies with the load without affecting the position of the truck or the action of the bars 35. As the body and truck are supported on separate springs 10 and 12, they may be readily separated from each other, the springs 10 being drawn up with the body out of the springs 12 after removal of the nuts 27.

The wheels, with the oil-boxes and shoes 16, may be removed from the truck by taking off the nuts 33 and swinging out the stirrups 34 from beneath the ends of the bar 32.

I claim as my invention—

1. The combination, in a car, of two bars 35, extending endwise of the car, pivoted together at or near their mid-length, and the contiguous ends of the two bars connected, respectively, with the car-body and with parts bearing directly upon the car-axle, substantially as set forth.

2. The combination, in a car, of two bars 35 at each side of the car, extending lengthwise of the car, two of each pair being pivoted together at or near their mid-length, and the contiguous ends of each pair connected, respectively, with car-body and with parts bearing upon the car-axle, substantially as and for the purpose set forth.

3. The combination, in a car, of a pair of bars 35, extending lengthwise of the car, pivoted together at or about their mid-length, with the contiguous ends 35^a and 35^b, connected, respectively, to the car-body and to parts bearing directly upon the axle, and a spring interposed between the end 35^b and the axle-bearing, for the purpose set forth.

4. The combination, in a car, of a pair of bars 35, pivoted together at or near the mid-length of the bars, said bars extending lengthwise of the cars and their contiguous ends 35^a 35^b connected, respectively, to the car-body and the truck, for the purpose set forth.

5. The combination, in a car, of a pair of bars 35, pivoted together at or near their mid-length, extending lengthwise of the car, with their contiguous ends 35^a 35^b connected, respectively, with the car body and truck, and springs interposed between the said ends and the car body and truck.

6. The combination, in a car, of a pair of bars 35, pivoted together, substantially as described, extending lengthwise of the car, with the ends 35^a of the bars connected with the car-body and the ends 35^b connected with the truck by means of the standard 29, shackle 40, and interposed spring 39, adapted to operate substantially as set forth.

7. The combination, in a car, of the pair of bars 35, pivoted together at or near their mid-length, one end, as 35^a, of each bar connected with the car-body and the other end having double-acting spring connection with the truck, substantially as set forth.

8. The combination, in a car, of pedestals connected to the truck, pedestals connected to the body, playing within the truck-pedestals, springs 12, supporting the truck-pedestals, and springs 10 within the springs 12, supporting the body-pedestals, and a shoe 16, connected to the grease-box and forming bearings for the springs 12 and 10, substantially as set forth.

9. The combination, in a car, of the shoe 16, attached to the grease-box and having cups 14, with central orifices 28, the springs 10 and 12, the bolts 24, and the cups 13, resting in the cups 14, substantially as set forth.

10. The combination, with the grease-box

17 of a car, of the truck-pedestal 8, the bolts 31, with nuts 33, the bar 32, and the stirrups 34, substantially as set forth.

11. The combination, in a car, of the body
5 and truck supported on separate springs and the bars 35, pivoted together and having ends connected, respectively, to the body and the

grease-box 17 or other part of the truck, substantially as and for the purpose set forth.

FREDERICK A. BAIER.

In presence of—

SAML. KNIGHT,
ED. S. KNIGHT.