

No. 606,938.

Patented July 5, 1898.

E. PECKHAM.  
CAR TRUCK.

(Application filed Feb. 5, 1897.)

(No Model.)

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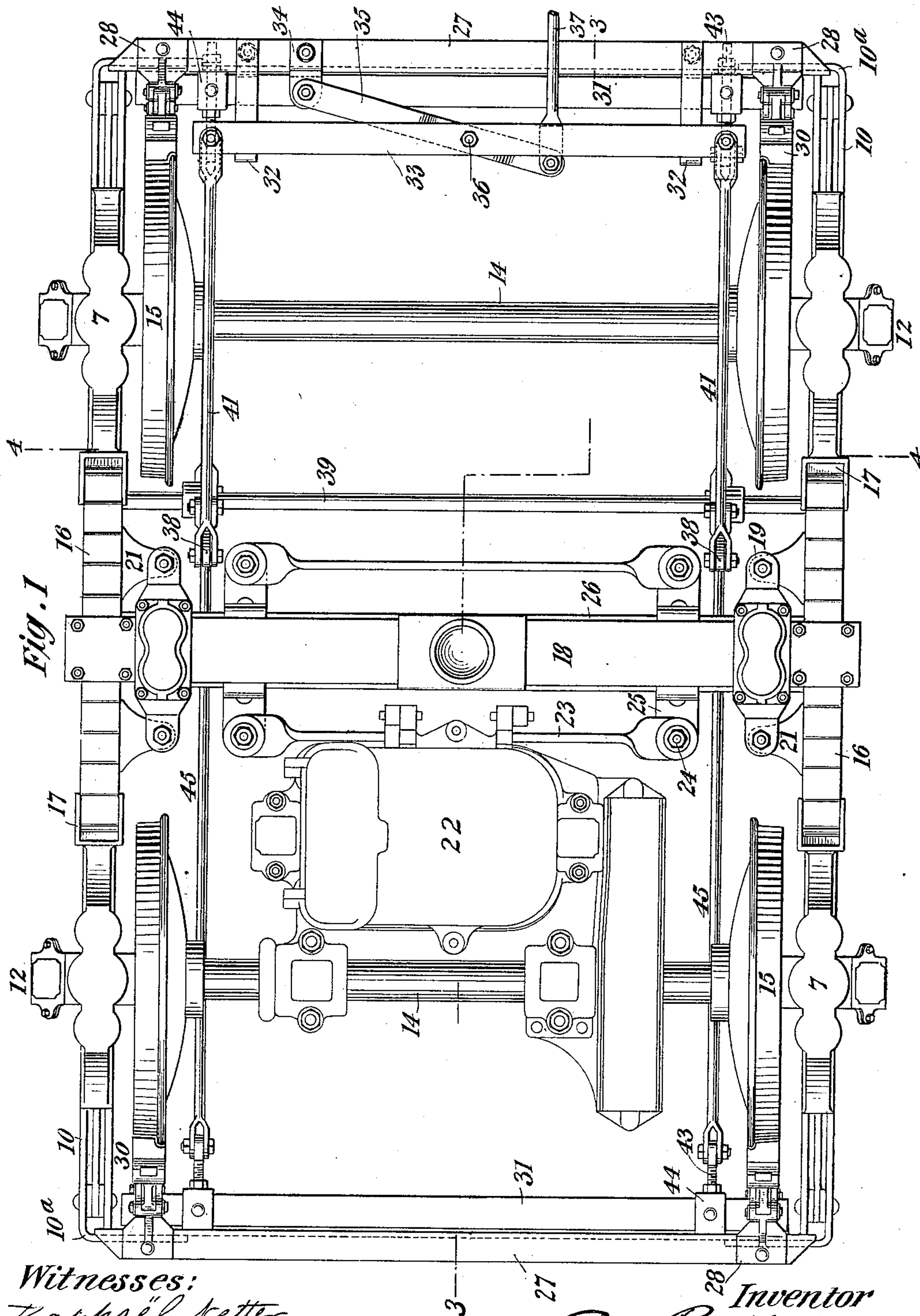


Fig. 1

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Fig. 2

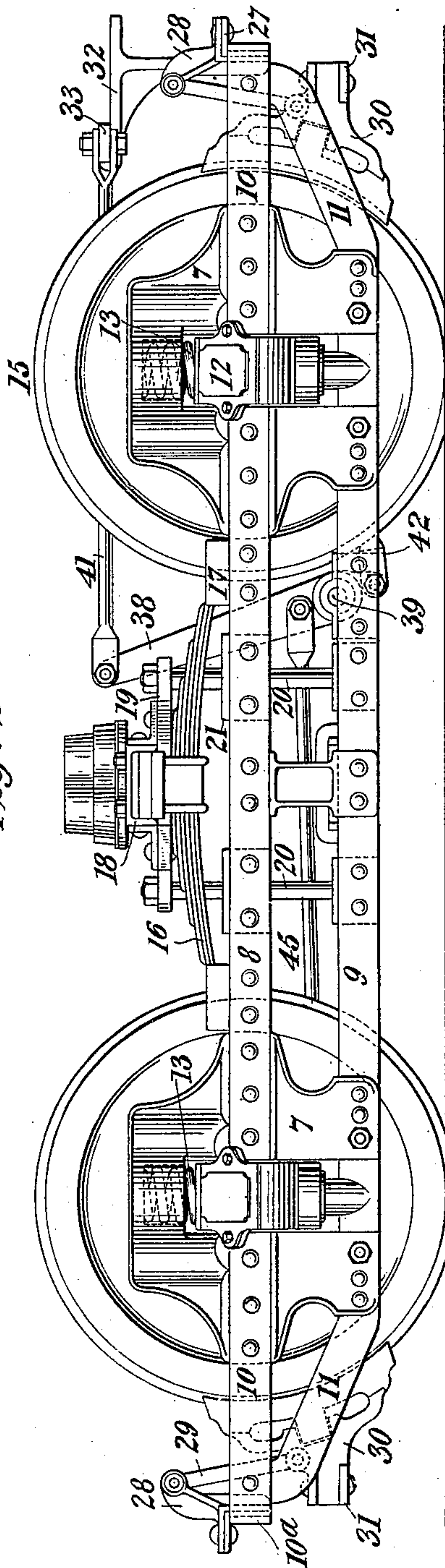
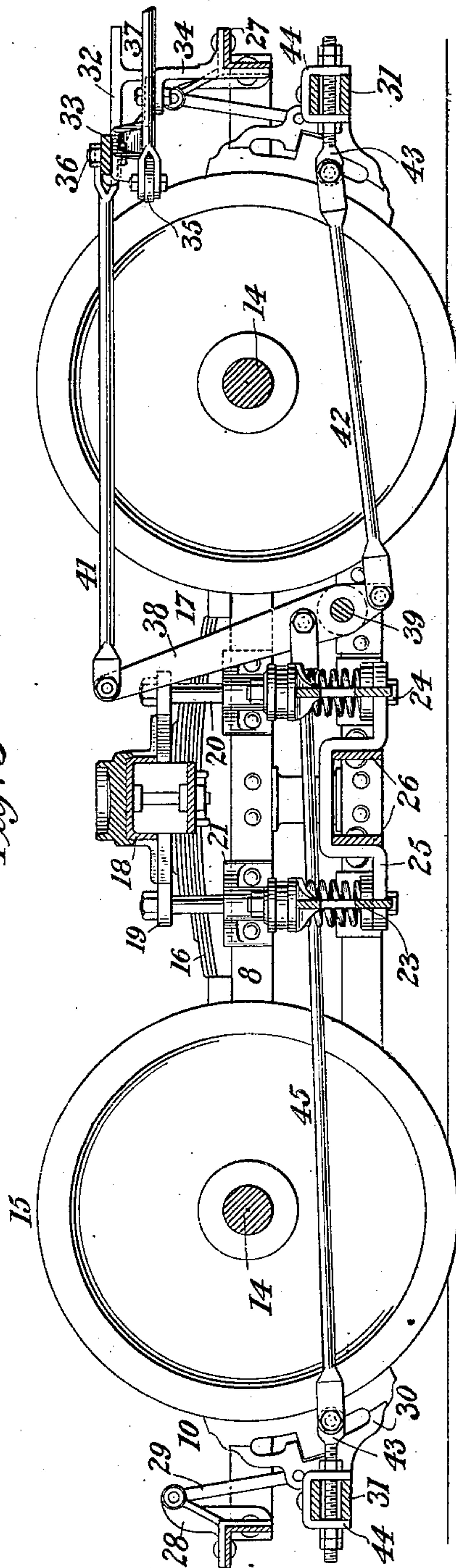


Fig. 3



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Fig. 4

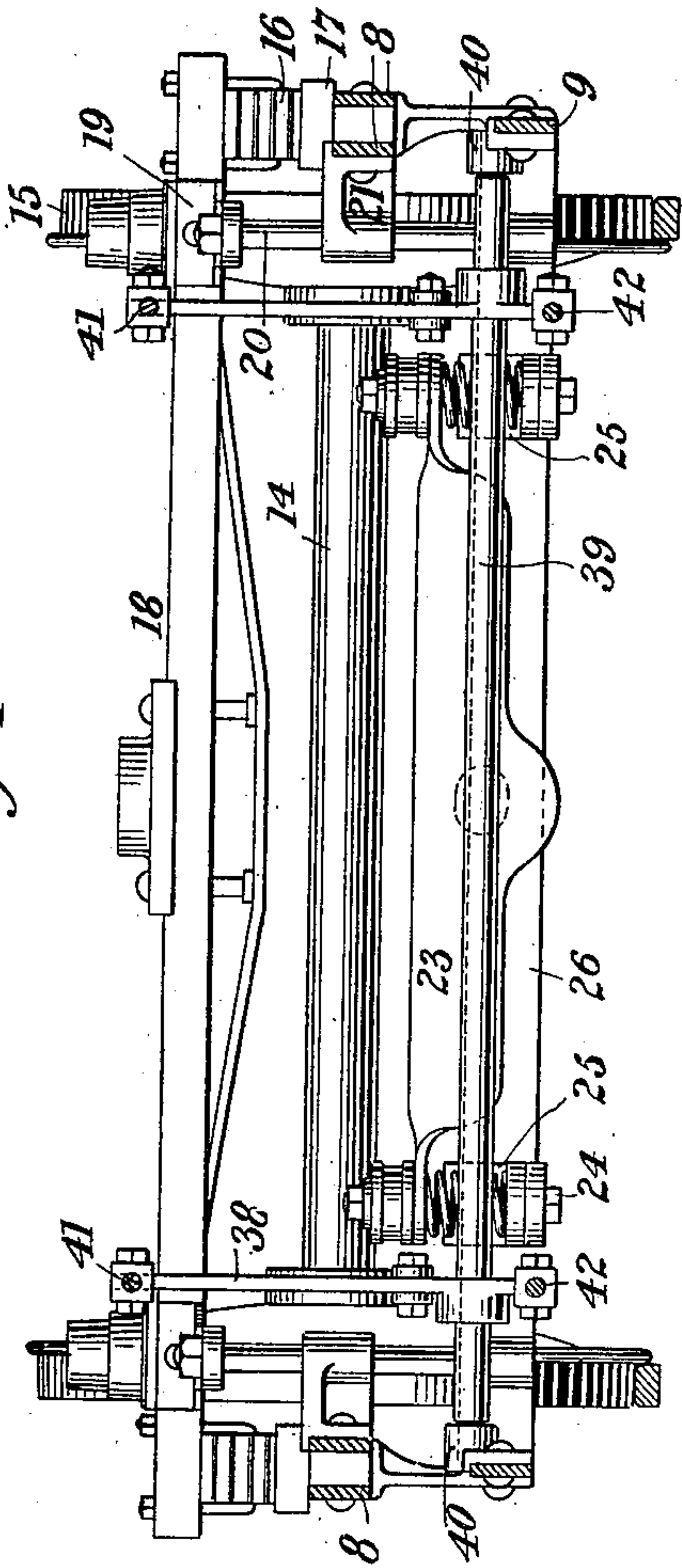
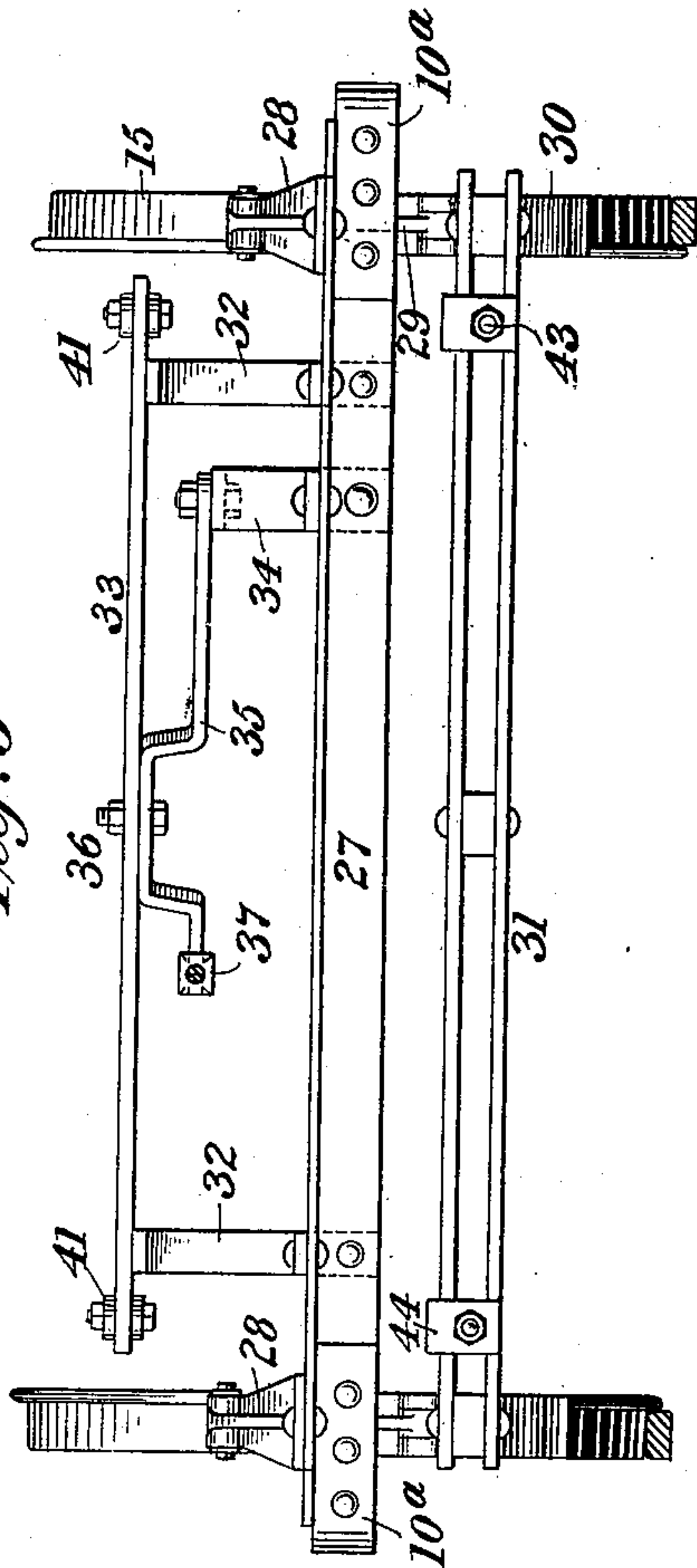


Fig. 5



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# UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF NEW YORK, N. Y.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 606,938, dated July 5, 1898.

Application filed February 5, 1897. Serial No. 622,192. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR PECKHAM, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

This invention relates to trucks adapted for electric, cable, and other cars. The truck is particularly intended for long car-bodies and high-speed service, the car-body being mounted upon a pair of the trucks, each provided with an elastically-arranged bolster directly supporting the car-body, and the trucks being equipped with double compound brake-lever mechanism. The side frames of the truck are supported upon the journal-boxes by graduated spiral springs to cushion the motors and car-body and avoid pounding of the rail-joints.

In the construction of the truck all the bearings and bolts are machine-fitted, and hot rivets are used in joining the several parts of the structure together. The truck as constructed has a short wheel-base, is strong and durable, and possesses superior easy-riding qualities.

The invention is illustrated in the accompanying drawings, which form part of this specification, and in which like features are indicated by like numerals of reference in the several views.

In the drawings, Figure 1 shows a plan of a truck embodying my invention. Fig. 2 is a side elevation. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 1. Fig. 4 is a transverse section on the line 4 4 of Fig. 1. Fig. 5 is an end view looking toward the left, Fig. 1.

Referring to the drawings, the side frames of the truck, both frames of which being in all respects exactly alike, comprise the pedestals or yokes 7, upper longitudinal beam 8, which is preferably duplex and which is connected to the yokes at about the center of their vertical height, and lower longitudinal beam 9, the beams 8 and 9 connecting the yokes together and riveted thereto, as shown, also the duplex end beams 10, riveted to the yokes, and the under truss-beams 11, riveted to the bottoms of the yokes and to said end beams, as shown.

The journal-boxes are indicated at 12 and operate within the yokes in the usual manner. Between the tops of the journal-boxes 12 and the upper or top member of the pedestals 7 are placed graduated spiral springs 13, there being recesses or apertures in the under surface of said upper members of the pedestals to receive the springs 13 to prevent their displacement. By this construction the side frames are spring-supported upon the journal-boxes, thus cushioning the motors carried by the truck and also the car-bodies mounted on the bolster of the truck. The pounding or hammering of the rail-joints is thus avoided. The axles of the truck are indicated at 14 and the wheels at 15.

Between the yokes of each side frame and below the tops of the pedestals there is arranged a half-elliptic spring 16, the ends of which seat in suitable shoes 17, secured to the upper longitudinal beam 8, contiguous to the yokes. The springs 16 support the bolster 18, the latter being connected to the springs in suitable manner and extending between said springs transversely of the truck and adapted to receive the car-body and be connected thereto. Connected to the bolster, near each end, just inside the half-elliptic springs, are cross-bars 19, through the ends of which pass the headed guide-bolts 20, the latter passing through brackets 21, riveted to the upper longitudinal beam 8, said guide-bolts 20 being fixed in shoes riveted to the lower longitudinal beam 9. Bolts 20 and brackets 21 form appliances for preserving the proper relative alinement of the bolster and the side beams, the bolster being always held by said bolts and brackets in a vertical plane and at right angles to the side frames as well as to the springs 16.

From the described construction it will be seen that when the car-body is mounted on the truck the load is supported at the center or midway between the ends of the truck and that it is double-cushioned on the truck-frame, first, by the half-elliptic springs supporting the bolster, and, secondly, by the spiral springs supporting the pedestals on the journal-boxes.

In Fig. 1 a motor is shown at 22, supported in the usual manner upon the axle of the truck and at the opposite side to the hanger



23, which is elastically suspended from the spring-equipped bolts 24, carried by the brackets or straps 25, riveted to the transverse beams 26, extending between the lower longitudinal beams 9 of the truck and being riveted thereto.

At each end of the truck-frame there is riveted to the end beams 10 an extension angle-beam 27, furnishing supports for the brake connections. The beams 27 are secured in position by extending the outer member 10<sup>a</sup> of the duplex end beam 10 around the beam 27 and riveting the two beams together, as shown in the drawings. The transverse beams 27 also afford strength to the truck structure. Secured to the transverse beams 27, near the ends thereof, are brackets 28, to which are pivoted links 29, which latter are pivotally connected to the brake-shoes 30, riveted to the brake-beams 31 in operative relation to the wheels of the truck.

At one end of the truck there are secured to the transverse beam 27 the brackets 32, which extend forward toward the center of the truck and furnish supports for the floating brake-bar 33 of the brake mechanism. Likewise secured to said beam 27 is the bracket 34, to which is pivoted the brake-lever 35 as shown. The brake-lever 35 is also pivotally connected at 36 to the floating brake-bar 33, and to the outer end of said lever there is adapted to be connected the operating rod or chain 37.

Two upright levers 38, one at each side of the truck, are pivotally attached at their lower ends to the side frames. In the drawings these upright levers are shown supported by the side frames of the truck by rod 39, which extends transversely of the truck and is supported by brackets 40, riveted to the lower longitudinal beams 9; but such levers may be supported directly on brackets riveted to said side beams 9, in which case the brake-rods and their connections to said upright levers and the brake-beams would be outside the truck-wheels and not inside, as shown in the drawings. To the upper ends of upright levers 38 are jointed brake-rods 41, whose opposite ends are jointed to the floating brake-bar 33; but the rods 41 may be omitted when levers 38 are attached near the end of the truck-frame. To the lower ends of the upright levers 38 are jointed the brake-rods 42, which at their outer ends are bifurcated and jointed to screw-bolts 43, which are connected to the brake-beam 31 by means of straps 44, riveted to said beam, the said screw-bolts passing through said straps, with nuts on each side of the strap, so that the rods 42 may be adjusted with relation to the brake-beam to suit conditions. Jointed to the upright levers 38, just above the point of connection of said levers with the side frame of the truck, there are jointed the brake-rods 45, which extend to the brake-beam 31 at the opposite end of the truck, being adjustably connected to said beam by the screw-bolt and strap connection

employed for connecting brake-rod 42 to the brake-beam at the opposite end of the truck.

By the mechanism described the brakes are applied at both ends of the truck-frames simultaneously, as will be understood from an inspection of the drawings. A pull upon the rod or chain 37 will cause lever 35, which is fulcrumed to the floating brake-bar 33, to force said bar outward and at the same time through connecting-rods 41 move the upper ends of upright levers 38 in the same direction, with the effect of forcing the lower ends of said levers in the reverse direction; thus pulling on the brake-rods 42 and applying the brake-shoes at that end of the truck, the outward movement of the upper ends of the upright levers 38 applying the brake-shoes at the other end of the truck through means of the brake-rods 45, connected to the brake-beam 31 at that end of the truck and jointed to the upright levers 38 above their pivotal connection on the truck-frame.

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

1. In a car-truck the combination with the side frames including yokes or pedestals connected together by longitudinal beams, of half-elliptic springs mounted on said beams, abutments for the ends of said springs arranged on said beams between the pedestals and on a plane below their tops, a car-body-supporting bolster secured to said springs and bearing upon the same, appliances connected to the beams and continuously maintaining the bolster in a vertical plane and at right angles to the side beams and half-elliptic springs, and means for maintaining the ends of said springs at constant elevations in relation to the longitudinal beams, substantially as set forth.

2. The combination in a car-truck of the side frames including yokes or pedestals, upper duplex beams and lower beams connecting the pedestals, half-elliptic springs, shoes or pockets mounted on the upper duplex beams in which the ends of the half-elliptic springs freely rest but so as to be capable of longitudinal movement in said shoes, a bolster supported by said spring, and vertical rods rigidly connected to the truck-frame and movably connected to the bolster so that the latter can move up and down and be kept in position relative to the springs.

3. In a car-truck, the combination with side frames comprising pedestals, and upper and lower beams connecting the pedestals together, said upper beams secured to the pedestals at about the center of their vertical height, of half-elliptic springs mounted on said upper beams to occupy a plane below the tops of the pedestals, a bolster secured to said half-elliptic springs and stays extending between said bolster and beams, the stays being fixedly secured to the lower beams and firmly held to the upper beams, substantially as set forth.



4. In a car-truck, the combination with side frames including yokes or pedestals connected together by longitudinal beams, of half-elliptic springs mounted on the side frames between the pedestals, a car-body-supporting bolster mounted on said half-elliptic springs and secured thereto, cross-bars connected to the bolster contiguous to said springs and vertical guide-bolts secured to the side frames and operating through the ends of said cross-bars.

5. In a car-truck, the combination with side frames including yokes or pedestals provided with recesses in their top members and connected together by longitudinal beams and journal-boxes operating within said pedestals, of springs arranged within the recesses of the pedestals and resting on the tops of the journal-boxes, half-elliptic springs mounted on the side frames between the pedestals, a car-body-supporting bolster secured to said half-elliptic springs and directly bearing upon the same, guiding mechanism connecting said bolster with the longitudinal beams for maintaining the proper relation between said bolster and half-elliptic springs, and means for holding the ends of said springs at constant elevations with reference to the seats of the springs within the recesses of the pedestals, substantially as set forth.

6. In a car-truck, the combination with side frames comprising pedestals and upper and lower longitudinal beams connecting the pedestals together, and end extension-beams and under truss-beams for supporting said end extension-beams, of transverse extension an-

gle-beams 27 secured at each end of the truck-frame, substantially as set forth.

7. In a car-truck, the combination with side frames comprising pedestals, upper and lower longitudinal beams connecting said pedestals together, the lower beam being riveted to the pedestals and forming a support for the guiding mechanism of the bolster, and adapted to support a motor, of longitudinal beams projecting from the pedestals at both ends of the truck and riveted to said pedestals and transverse end extension-beams 27 riveted to said longitudinally-projecting beams, substantially as set forth.

8. In a car-truck, the combination with side frames comprising pedestals, upper and lower longitudinal beams connecting said pedestals together, longitudinal beams projecting from the pedestals at both ends of the truck and transverse end extension-beams 27 riveted to said longitudinally-projecting beams, of half-elliptic springs mounted on the side frames between the pedestals and having their ends seated at constant elevations, a car-body-supporting bolster secured to said springs and directly bearing upon the same, and guiding mechanism connecting said bolster with the longitudinal beams for maintaining the proper relation between said bolster and springs, substantially as set forth.

Signed at New York, in the county and State of New York, this 3d day of February, 1897.

EDGAR PECKHAM.

Witnesses:

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