

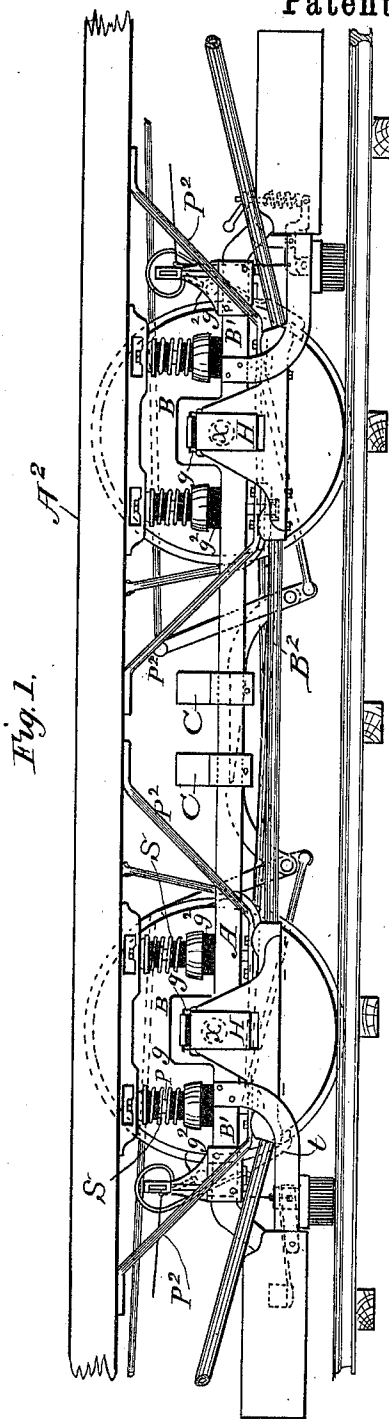
(No Model.)

3 Sheets—Sheet 1.

G. W. MANSFIELD & I. F. BAKER.
CAR TRUCK.

No. 566,202.

Patented Aug. 18, 1896.



WITNESSES

J. Hurdle
W. H. Capel

INVENTORS

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BY

H. C. Townsend
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(No Model.)

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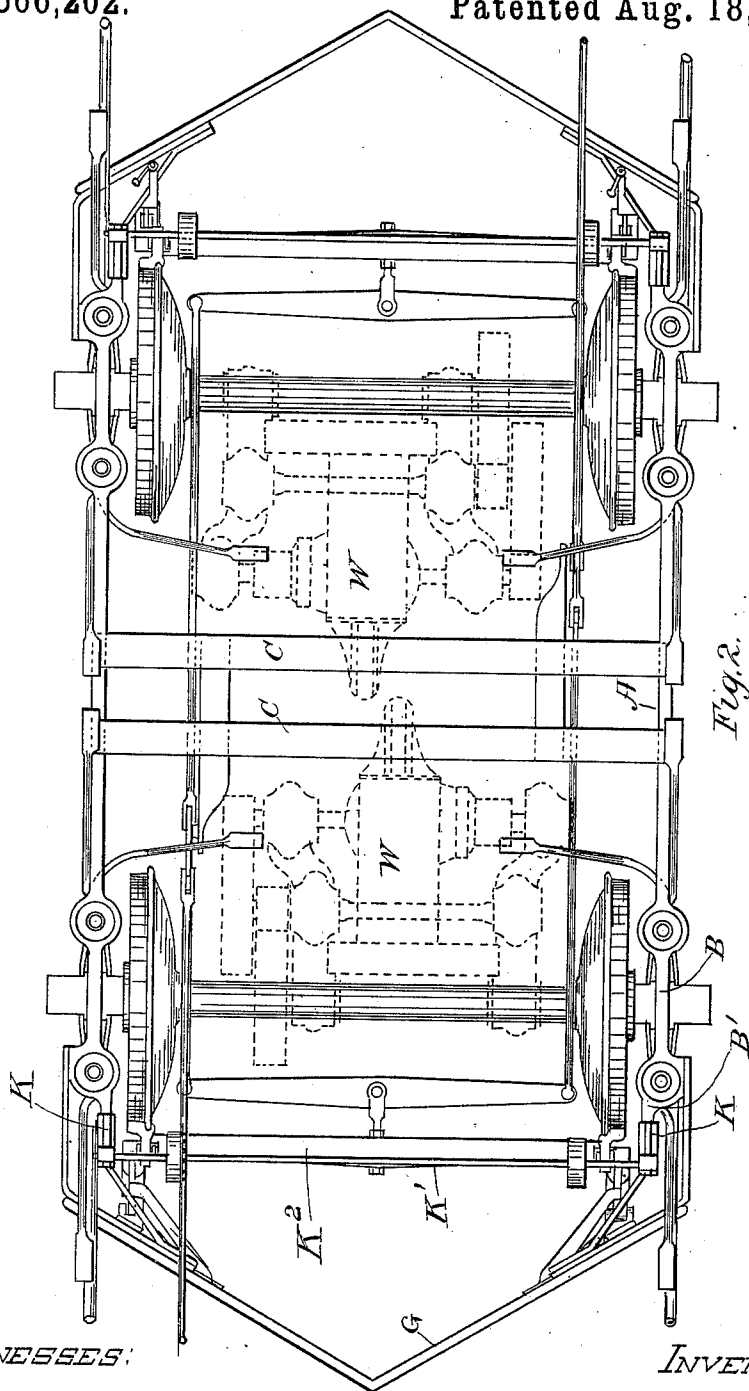


Fig. 2.

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(No Model.)

3 Sheets—Sheet 3.

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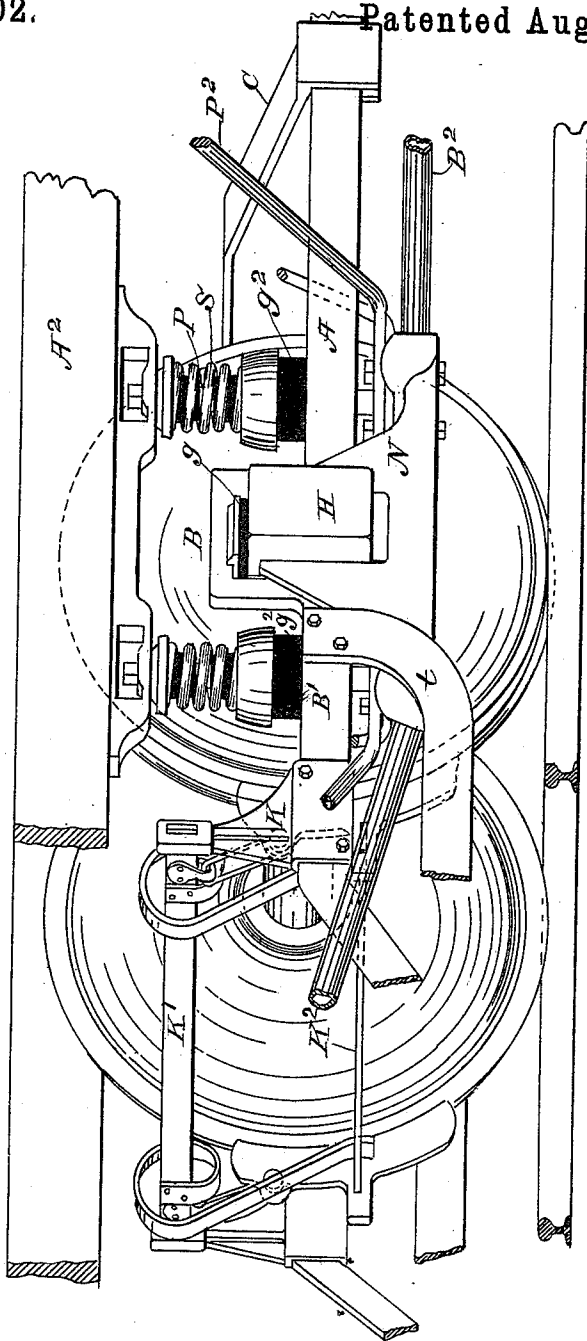


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. MANSFIELD AND ISAAC F. BAKER, OF LYNN, MASSACHUSETTS,
ASSIGNORS TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CON-
NECTICUT.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 566,202, dated August 18, 1896.

Application filed November 30, 1889. Serial No. 332,150. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. MANSFIELD, a citizen of the United States, and ISAAC F. BAKER, a subject of the Queen of England, and residents of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

Our invention relates to the construction of car-trucks and to the manner of supporting the car-body thereon. It also relates to the means of supporting an electric motor for propelling the car.

Our invention has in view the construction of the truck in a simple, efficient, and durable manner and the supporting of the car-body in such way that no distortive strains can be imparted to the supporting devices.

Our invention, moreover, has in view to so support the electric motor that it shall be relieved of jars or shocks.

Our invention consists, further, in the peculiar constructions and organizations herein-after described, and more particularly specified in the claims.

Referring to the drawings, Figure 1 is a side elevation of a truck-frame and car-sill embodying our invention. Fig. 2 is a plan of the truck, the car-wheels, and an electric motor sustained by the truck. Fig. 3 is a perspective view of one end of the truck and car-sill.

A B B' indicate one side of the truck-frame, formed of iron or steel and in a single piece. The part B is constructed as a guide for axle-box H, while the part A is the uniting-bar. The part B' is extended to form a support for a standard K. The standards K at opposite sides of the car-truck are united by a bar K', from which the brake-bar K² is sustained in any proper manner. The bar K' also serves as an end-uniting bar for the side bars.

G is the life-guard or fender, which is sustained by the arm t, secured to or forming extensions of the part B' of the truck-frame, as seen in Fig. 3. The fenders are rigidly united to the arm t, and additional brace-rods extending from the part B' of the said frame

may also be used, as indicated in the plan view.

The manner of mounting and supporting the brake-bar on the frame forms no part of our present invention.

C C are cross or arch bars or braces uniting the side bars A and serving to sustain electric motors W in any proper manner, one end of such motor being attached to or engaged with the cross-bar C, while the other end is sleeved upon the car-axle. The armature of the motor is geared to the car-axle, as now well understood in the art.

The truck-frame is sustained directly on the journal-boxes H, but with an interposed cushion g, of rubber or other suitable material, properly mounted and serving to take up the jars or shocks and prevent them from being transmitted to the motor. The sill of the car (indicated at A²) is sustained directly on the truck-frame at either side of part B by springs S. Cushions g², of rubber or other suitable material, may be interposed between the lower spring-plate and the truck-frame.

N N are guide plates or frames rigidly sustained from the car-sill and having an extended vertical bearing, preferably on the journal-box H. The bearing, however, is such as to permit a free relative vertical movement of the journal-box and guide-frame with relation to one another. B² are tie-bars uniting frames N. The guide boxes or frames N have, it will be observed, the functions of ordinary pedestals attached to the car-body instead of to the truck-frame.

The parts B of the truck-frame may be formed to act also as pedestals or guides for the journal-boxes or not, as deemed desirable. In case, however, the journal-boxes are not guided in such parts B, an undesirable strain might be brought upon the posts P by movement, or tendency to movement, of the truck-frame in a longitudinal direction with relation to the other parts. In the construction shown this strain and any torsional strain upon the axle-boxes are prevented by the yokes and guide-frames bearing against the axle-boxes in substantially the same horizontal plane in direct opposition longitudinally to one another.

P² are the brace-rods on both sides of the journal-box connecting the sill with the frame N, detachably secured thereto, preferably by bolts, as shown, while P are posts or bolts within the springs S, which pass down from the car body or sill for connection with the guide frame or plate N and serve in part to sustain the same. The posts P are guided in the truck-frame A B' at either side of part B by passing through perforations or openings in the same, as will be well understood by those skilled in the art.

By means of the guide frame or box N distortive stress or strain upon the lower end of the posts or bolts P is prevented in case one end of the car should be more heavily loaded than the other. At the same time the car may move freely up and down with relation to the axle-boxes.

The guide boxes or frames N are also preferably constructed so as to bear upon or engage with the part B or some part of the truck-frame on the inner and outer vertical surfaces or sides thereof, thus preventing lateral vibrations of one part with relation to the other. This, however, is an incidental feature, the main point being to so guide the box or frame N that the distortive stress or strain on the posts P shall be prevented, as well as any longitudinal oscillation or movement of the car-body with relation to the wheels.

What we claim as our invention is—

1. In a car-truck, side bars made in one piece and formed with upwardly-extending

yokes which embrace the axle-boxes and form the pedestals for guiding them in their vertical movement.

2. In a car-truck, the combination with the axle-boxes, of side bars provided with upwardly-extending yokes embracing said boxes to form the pedestals therefor and extending to a point below the line of the axles to prevent torsional strains upon said boxes.

3. In a car-truck, the combination of side bars having yokes fitted to the axle-boxes to form the pedestals therefor, and guide-frames secured to the car-body and having projections, also embracing the axle-boxes and bearing thereagainst in substantially the same horizontal plane as the yokes to assist in preventing longitudinal movement of the car-body in relation to the wheels.

4. The combination of the truck side bars having yokes fitted to the axle-boxes to form pedestals therefor, the car-body, the interposed springs between the body and side bars, the guide-frames also embracing the axle-boxes, and posts passing through the side bars and uniting the car-body and guide-frames.

Signed at Lynn, in the county of Essex and State of Massachusetts, this 27th day of November, A. D. 1889.

GEORGE W. MANSFIELD.
ISAAC F. BAKER.

Witnesses:

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