

(No Model.)

C. J. VAN DEPOELE.
MOTOR TRUCK.

No. 461,293.

Patented Oct. 13, 1891.

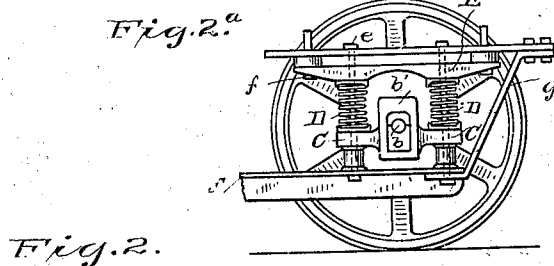
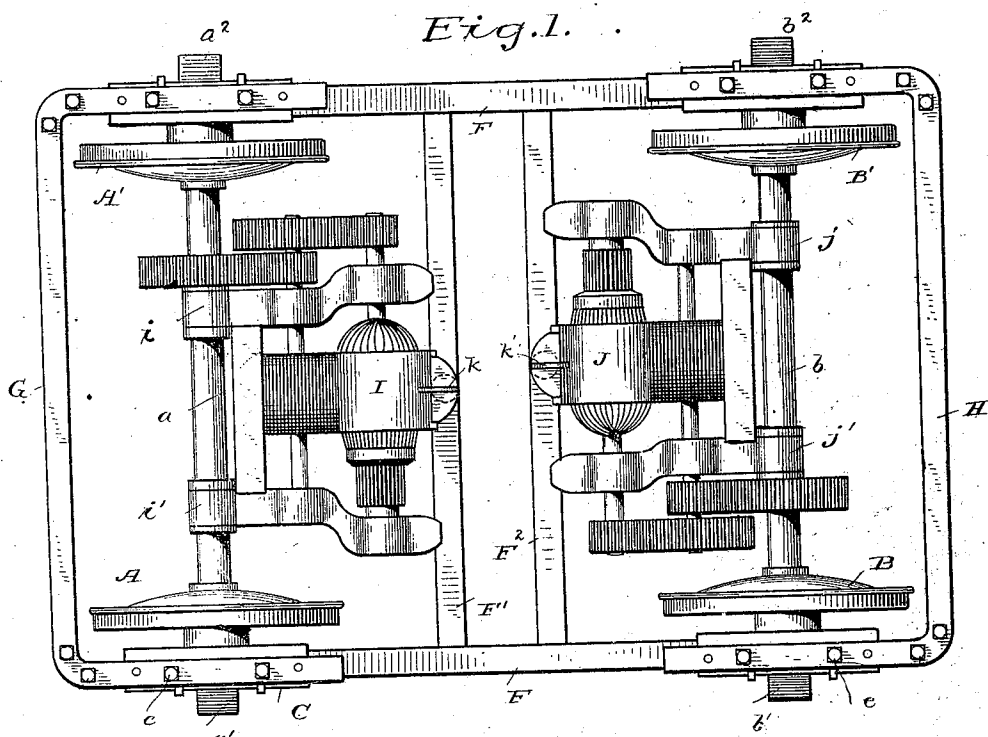
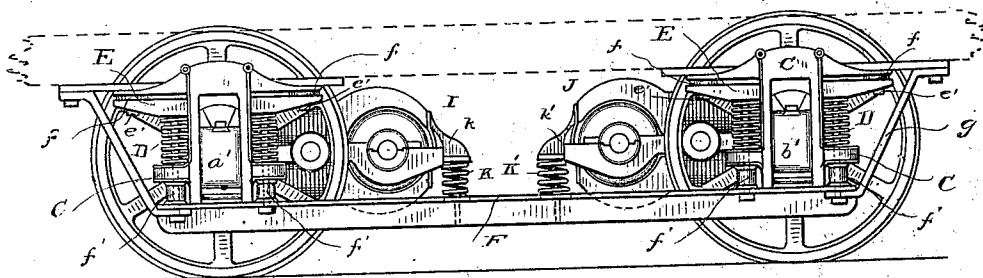


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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MOTOR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 461,293, dated October 13, 1891.

Application filed September 25, 1889. Serial No. 325,011. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. VAN DEPOELE, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Motor-Trucks, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My present invention relates to improvements in trucks for electric-motor cars and includes special provision in a car-truck for sustaining the propelling-motors in operative relation to the carrying or driving wheels thereof, as will appear.

A construction illustrating the invention will be hereinafter described, and referred to in the appended claims.

In the drawings, Figure 1 is a plan view of a motor-truck embodying my invention. Fig. 2 is a side elevation also showing the motor-truck and indicating in dotted lines a portion of the lower part of a car-body. Fig. 2^a is a detail view of one of the bearings with pedestal omitted.

As indicated in the drawings, the carrying-wheels A A' and B B' are sustained, respectively, upon axles a b, the extremities of which are mounted in journal-boxes a' a² b' b². The axle-boxes may be of any type or construction, and each is provided with strong lateral extensions or brackets C extending from both sides thereof. The axle-boxes, being mounted directly upon the ends of the axles of the carrying-wheels, form the points of support for the entire weight to be carried. Consequently if suitable springs are interposed between said axle-boxes and the superincumbent weight, spring effect will be secured. Two of such springs are provided for each bearing, being indicated in the drawings at D. The springs D are seated at their lower ends upon the brackets C, and, as here shown, at their upper ends in a saddle E. The saddle and the springs are, furthermore, connected by vertical rods e, which pass from the saddle through the interior of the springs and through the brackets C, extending downward therefrom to form supports for sills or frame-bars F, through which they pass and below

which they are firmly secured. Additional buffer-springs f are interposed between the upper surfaces of the frame-bars F and the lower sides of the bearings C, in order to still further absorb vibration and prevent jarring. The sides of the truck are connected by end bars G H, which extend around the ends of the truck and at their respective ends are connected to and secured upon the saddles E by bolts e', in addition to which the bolts e may be extended therethrough. The connection between the end bars G H and the frame-bars may be re-enforced and rendered still further secure by tie-bars g, which extend between the end bars G H, and are securely connected to the extremities of the frame-bars F. The introduction of the tie-bars g does not, however, affect the action of the truck, since the parts are primarily connected by the vertical bolts e and move as a unit under any circumstances.

The car-body is mounted upon the end bars G H, one of the sills of the car-body being indicated in Fig. 2 in dotted lines. The bearing boxes a' b' b', being sustained upon the extremities of the axles a b, will remain at a fixed distance from the rails. The car-body, being sustained upon said axle-boxes by springs D, will have some vertical movement thereon, in accordance with the stiffness of said spring and the inequalities of the roadway. The frame-bars F, being suspended from the spring-supported parts, will move vertically therewith.

Electric motors I J are indicated in the drawings, together with suitable gearing, extending between the armature-shafts and the said axles a b. The inner ends of the motor-frames are sleeved upon the axles a b by sleeved bearings i' j' j', and the special object of this invention is to provide a strong, convenient, and durable support for the free ends of said motors, whereby they may be sustained in such manner that they may have some radial movement with respect to the axles, upon which their inner ends are sustained. This radial movement is necessary, in order to utilize the effect of cushioning-springs connected with their free extremities. This result is attained by providing strong transverse supports F' F², which are

located directly under the free ends of the motors and firmly secured to the longitudinal frame-bars F. Suitable springs are interposed between the transverse supporting-bars F' F² and the outer ends of the motors, and said springs may be of any desired form—for example, as indicated at K K'

It will be understood that I contemplate insulating the springs K K' from their supports, if found desirable, and also that I may use any desired form of spring. The form here shown, however, gives good results.

The actual connection between the motors and their supporting-springs is, as hereshown, in the form of a bracket k k', which is of diamagnetic metal and securely attached to the extremities of the field-magnets of the motors. This feature is, however, claimed in another application.

It will be evident that the brackets k k' might be dispensed with and the transverse supports F' F² be placed directly under the lowest portions of the ends of the motors, and that therefore the invention is not limited to the precise details here shown, since good results might be secured with other dispositions of the parts.

The obvious advantage of the construction here shown is found in the fact that the cushioning effect of both sets of springs—viz., those supporting the car-body, together with the secondary frame, and those placed directly under the motors—is availed of to modify the jarring and vibration incident to the movements of the vehicle.

Having described my invention, what I

claim, and desire to secure by Letters Patent thereon, is—

1. The combination of a spring-supported truck-frame adapted to sustain the car-body, a secondary frame depending therefrom, one or more motors sustained at one end upon the truck axle or axles independent of the springs, and yielding connections between the free ends of the motor or motors and the secondary frame.

2. The combination of a frame joining the pedestals of a car-truck and adapted to receive the car-body, a separate frame depending from the main frame and also sustained by the springs supporting the car-body, and an electric motor having at one end a bearing upon the axle independent of either frame and at its other or free end a yielding support upon the depending frame.

3. In an electric-motor truck, the combination, with the axle-bearings, of springs sustained thereon, a car-body mounted upon said springs, a frame below the axles and sustained at its ends upon connections extending downwardly from the supports of the car-body, and electric motors mounted at one end upon the axles with their free ends extending toward each other, said free ends spring-supported upon the suspended frame.

In testimony whereof I hereto affix my signature in presence of two witnesses.

CHARLES J. VAN DEPOELE.

Witnesses:

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