

(No Model.)

E. LUNDQVIST.
ELECTRIC CAR TRUCK.

No. 592,151.

Patented Oct. 19, 1897.

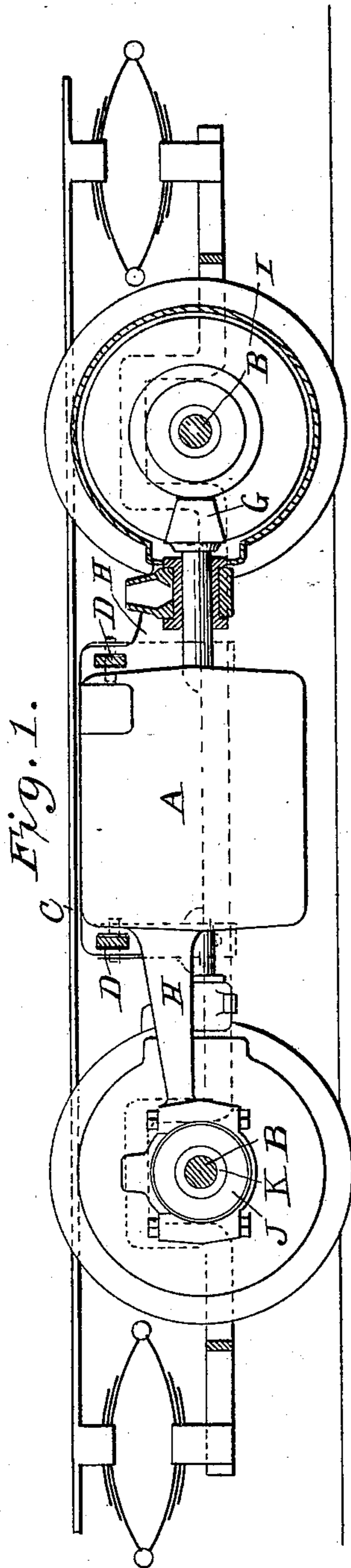
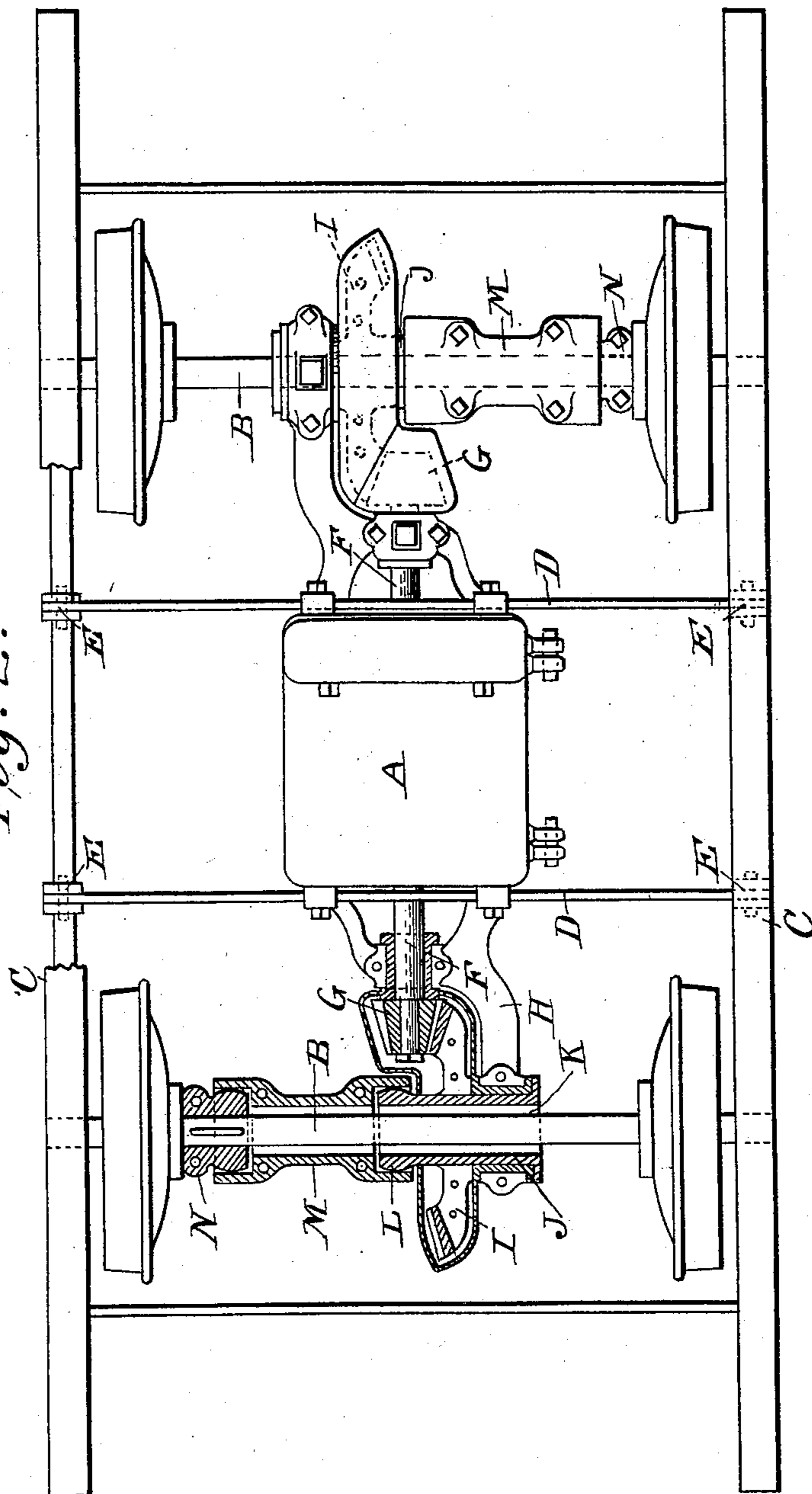


Fig. 2.



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ELECTRIC-CAR TRUCK.

SPECIFICATION forming part of Letters Patent No. 592,151, dated October 19, 1897.

Application filed December 29, 1896. Serial No. 617,340. (No model.)

To all whom it may concern:

Be it known that I, EMIL LUNDQVIST, a subject of the King of Sweden and Norway, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric-Car Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in electric locomotive and car trucks and particularly to that class of electric-car trucks in which a single motor is employed in connection with power-transmitting gearing between said motor and the two wheel-axles of a four-wheeled truck.

The objects of my invention are to provide a method of mounting a propelling-motor which will prevent injury to the motor caused by shocks and jars, due to irregularities in the track and other reasons, and to provide simple and effective power-transmitting gearing between the motor-shaft and the car-axles, and to mount this power-transmitting mechanism in such a manner as to provide a flexible coupling between the motor-shaft and the two axles of a four-wheeled truck.

Having these objects in view, my invention consists, generally stated, in the construction and combination of parts substantially as hereinafter described and claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view, and Fig. 2 a side elevation.

Referring to the drawings, A represents the motor, located between and connected, by power-transmitting gearing, to both of the axles B, journaled in suitable attachments of the frame C in the usual manner. The motor A is rigidly mounted on the truck-frame C about midway of the axles B. In the drawings the motor is shown suspended from two cross-beams or girders D, which are attached to the truck-frame C at the points E by bolts, screws, or other suitable means. In some cases it may be found desirable to provide an elastic support for the girders at the points E, which will be found to be practicable and easily accomplished.

F is the armature or motor shaft and extends outwardly from the motor and on either side thereof, in the direction of the two axles B, and at right angles to the said axles. The motor-shaft at both of its outer ends is provided with a pinion G.

H are extensions or brackets cast with or attached to the motor-casing and extend outwardly therefrom on both sides of the motor and in the direction of the axles, the purpose thereof being to support the motor-shaft and the gear-wheels I, and to this end said extensions are provided with bearings for the hubs J of the said beveled gear-wheels. Two gear-wheels are employed, each having an extended hub J and each surrounding one of the axles B. The internal diameter of each hub is considerably greater than that of the axle, and consequently a cylindrical space K is provided between the axles and the hubs, which permits of a certain play of the axles in the hubs.

The gear-wheels are attached to or cast with the hubs J at one end, and the other end of each hub has a square or polygonal shaped head L, the faces of which are slightly rounded in the direction of the axle which it surrounds.

M are sleeves having at both ends polygonal openings or sockets, corresponding in size and shape to the heads L at one end and to collars N, which surround and are keyed to the axle B at the other end. The sleeves M are also made of greater diameter than the axles, and for convenience of construction are usually made in two parts joined in any suitable manner. As was said, the collars N are keyed to the axles B and their ends nearest the sleeves M are shaped to correspond to and fit in the sockets of the said sleeves. The heads L correspond to and fit in the sockets at the other ends of the sleeves.

The construction herein described provides a flexible connection between the motor-shaft and both axles of a four-wheeled truck and enables me to employ a single motor for operating the locomotive. It permits the axles to have considerable movement in any direction, without causing jars and shocks to the motor and to the power-transmitting gearing, and, further, the rotary motion of the gearing is positively transmitted to both axles

and the said gearing maintained in perfect alinement. This construction is readily adaptable to trucks of different wheel-bases, for, by changing the extensions or brackets of the motor-casing which carry the gear-wheels, I am enabled to vary the length of the armature or motor shaft.

Having thus described my invention, what I claim is—

10 In a truck for electric locomotives, the combination of two wheel-axles; a driving-motor solely mounted on the truck-frame between the axles, a motor-shaft, having a pinion on either end thereof; a motor-casing;
15 said pinions each engaging a gear rotatively

mounted in bearings in the extensions of the motor-casing and loosely surrounding the axles, said gears connected to the axles through flexible joints, consisting of sleeves loosely surrounding the axles, one end of each sleeve flexibly coupled to the axles and the other end similarly coupled to the gears, substantially as described.

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

EMIL LUNDQVIST.

Witnesses:

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