

(No Model.)

2 Sheets—Sheet 1.

G. F. CARD.

MOTOR SUSPENSION FOR STREET CARS.

No. 552,347.

Patented Dec. 31, 1895.

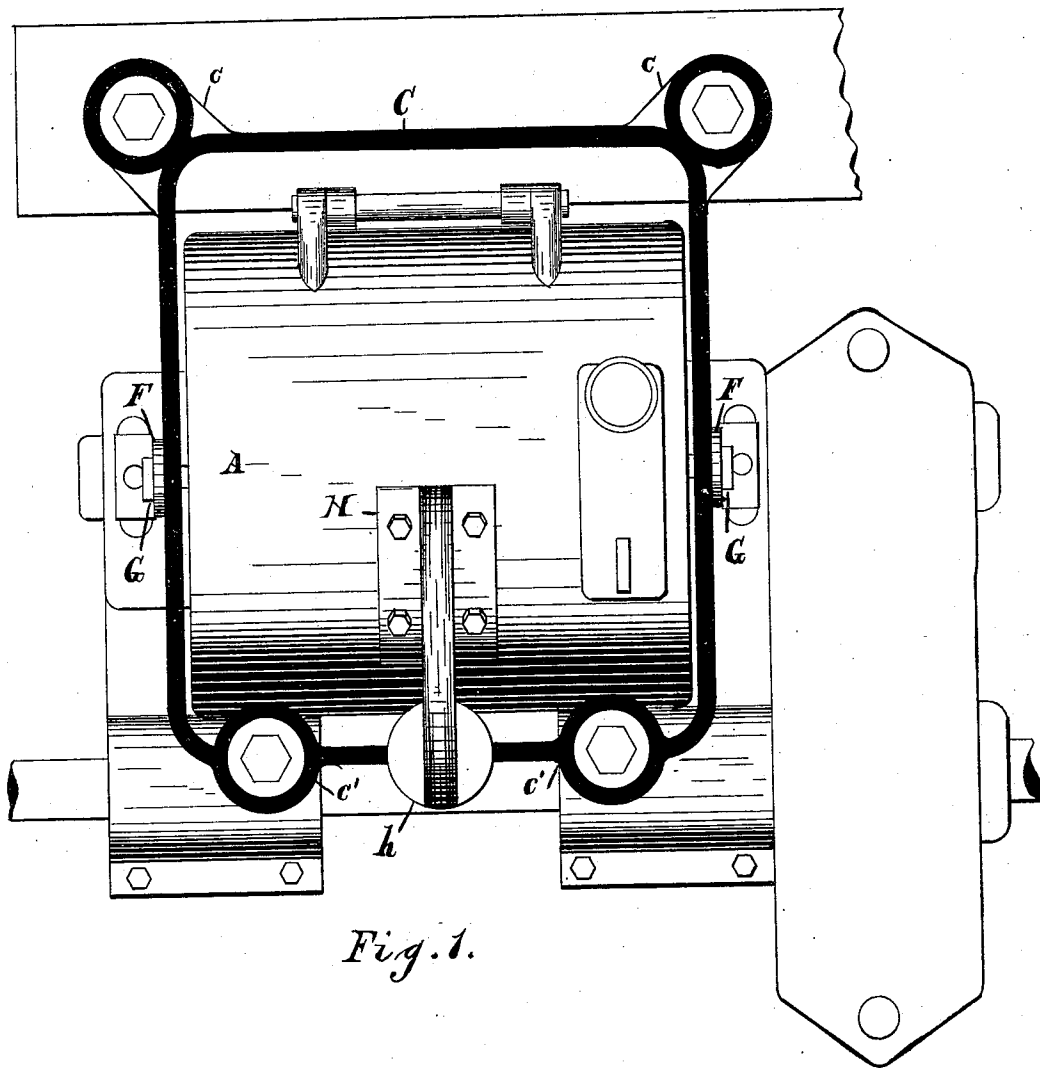


Fig. 1.

Witnesses

Ernest H. Hood.
Arthur E. Giorgi.

Inventor

George F. Carr,

By *his* Attorney

Gen. 13. Particular

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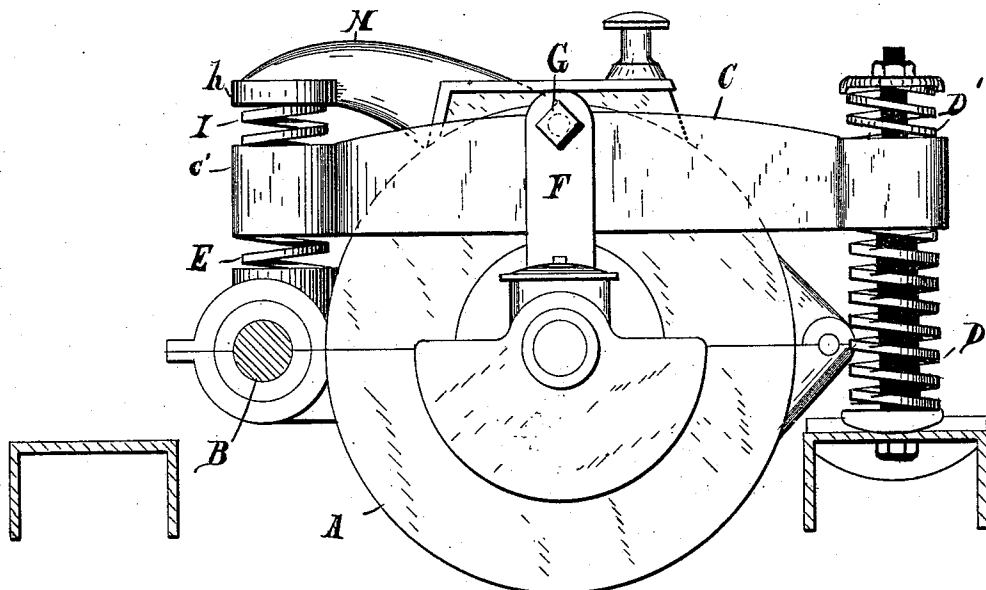


Fig. 2.

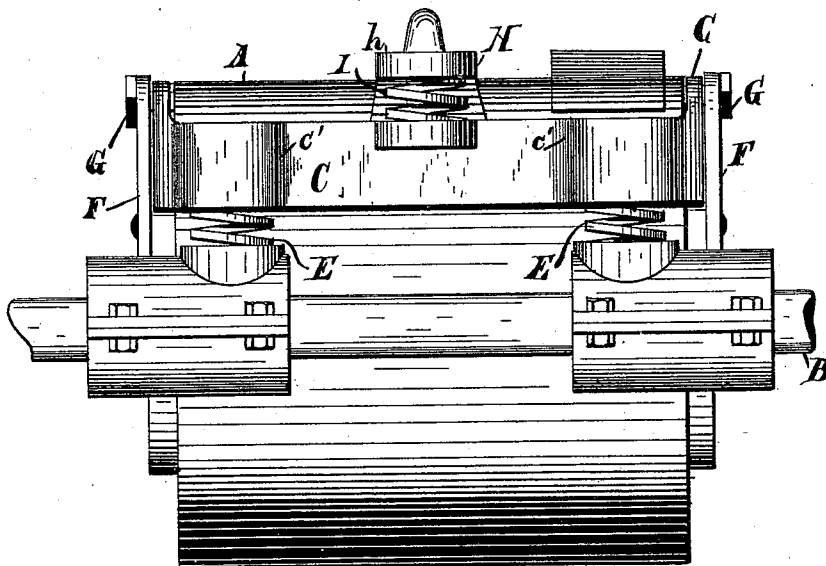


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE F. CARD, OF MANSFIELD, OHIO.

MOTOR-SUSPENSION FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 552,347, dated December 31, 1895.

Application filed August 21, 1895. Serial No. 559,992. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. CARD, a citizen of the United States of America, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Motor-Suspensions for Street-Cars, of which the following is a specification.

The object of my invention is to provide an improved motor-suspension; and the invention consists in the combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan; Fig. 2, an end elevation on line 2 2 of Fig. 1, and Fig. 3 a front elevation.

A represents a motor, preferably of iron-clad type, having the working parts entirely incased, one end of which is supported on the car-axle B. A rectangular frame C is provided at one end with socket-lugs *c*, which rest upon springs D, carried by the car-truck. The opposite end of the rectangular frame C is provided with socket-lugs *c'*, supported on springs E, which are supported from the axle, as distinguished from the truck, and are preferably mounted above the axle upon the motor-casing. Straps F, secured to the ends of the motor-casing, extend along the outside of the frame C and pivot-bolts G, take through the straps and frame C and into the motor-casing. The straps afford bearings for the outer ends of the bolts, and the motor-casing forms bearings for the inner ends, thus giving a double support and preventing liability of bending, which frequently occurs when the bolts have but a single bearing.

A bracket H is secured to the motor and provided with a socket-lug *h* directly over the end of frame C. A spring I is placed between lug *h* and the frame.

Any jar to the motor is transmitted to the rectangular frame and is received by springs

whatever the direction of movement may be. The motor is pivoted to the rectangular frame and elastically limited in its movement relative thereto by springs E and I. Spring I produces a limited compression on springs E, thereby preventing undue oscillation of the motor when passing over rough places in the track and also holds the motor against lifting or climbing when the motor is reversed or there is a sudden increase in the current.

I find that the construction above described affords a compact and elastic suspension which reduces the jarring or hammering to a minimum.

I claim as my invention—

1. The combination, with a motor, of a frame having one end elastically supported upon the car truck, and the other end elastically supported from the car axle, and a pivotal connection of the motor and frame between the points of support of the frame, substantially as and for the purpose set forth.

2. The combination, with a motor, of a frame having one end elastically supported upon the car truck, and the other end elastically supported from the car axle; a pivotal connection of the motor and frame between the points of support of the frame; a bracket extending from the motor casing to a point above the axle, and a spring between the bracket and axle, substantially as and for the purpose set forth.

3. The combination with a motor of a frame, C, supported at one end upon springs, D, and at the other end upon springs, E, a bracket, H; a spring, I, between the bracket and frame; the straps, F; and the pivot bolts, G, substantially as and for the purpose set forth.

GEORGE F. CARD.

Witnesses:

RIED CARPENTER,
B. F. CRAWFORD.