

(No Model.)

R. L. COHEN.
ELECTRIC RAILWAY.

No. 327,382.

Patented Sept. 29, 1885.

Fig. 1.

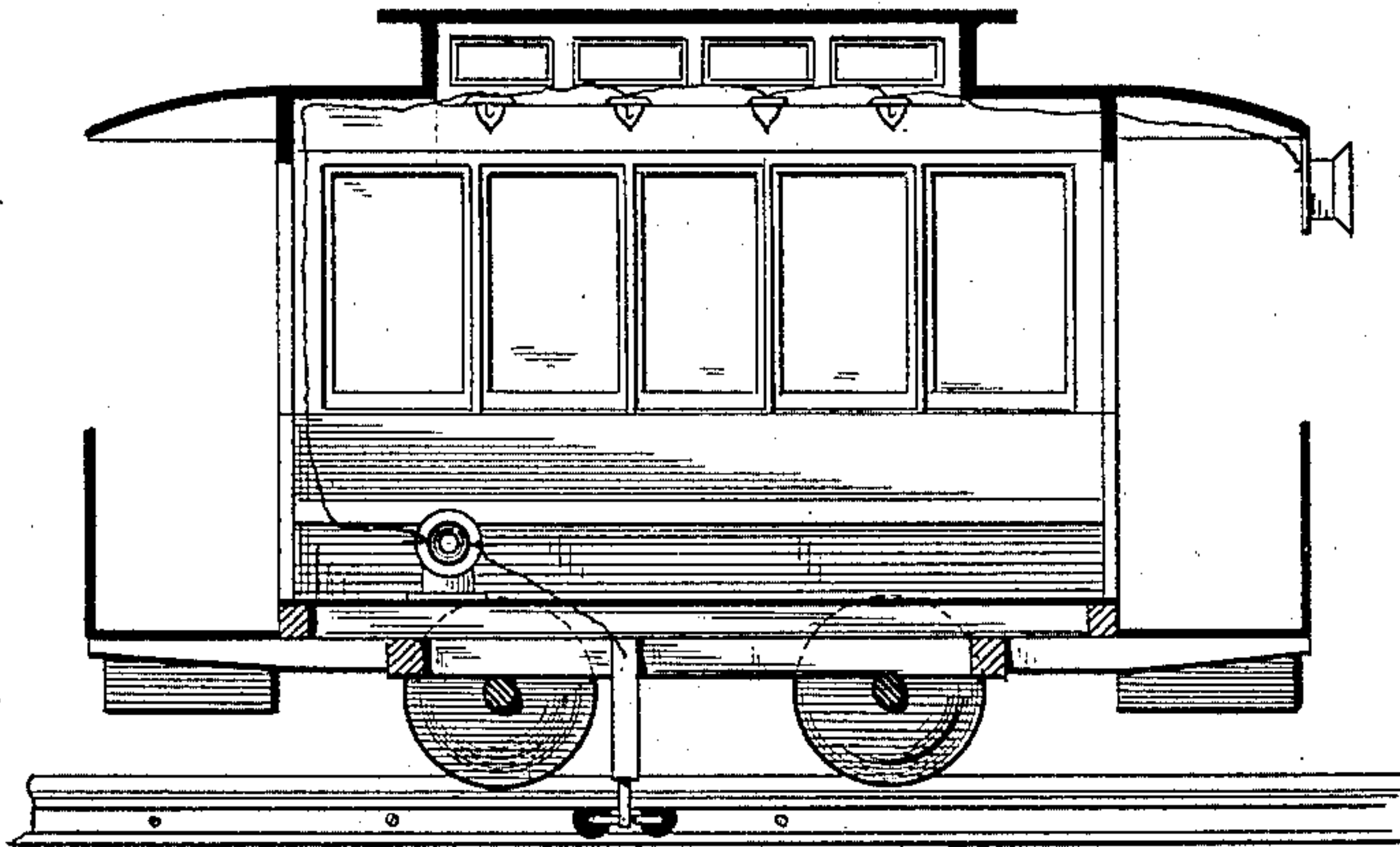


Fig. 2.

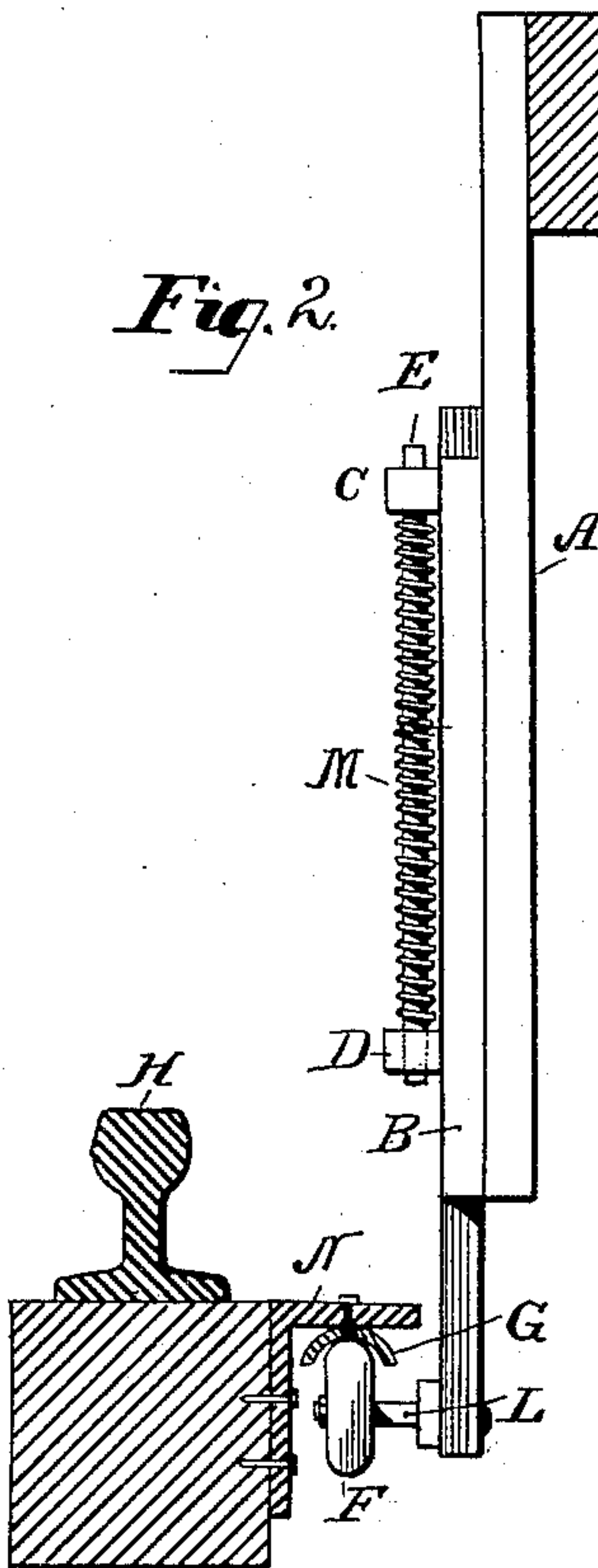


Fig. 3.

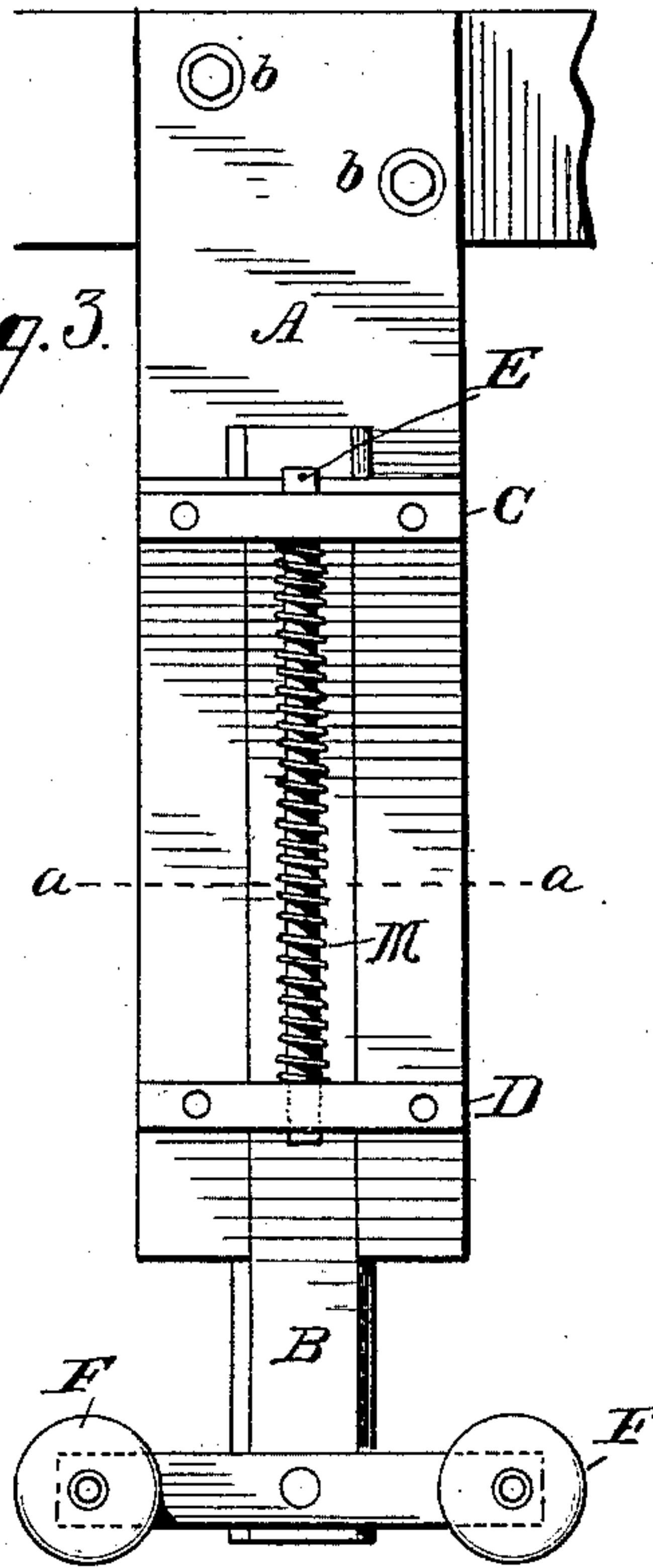
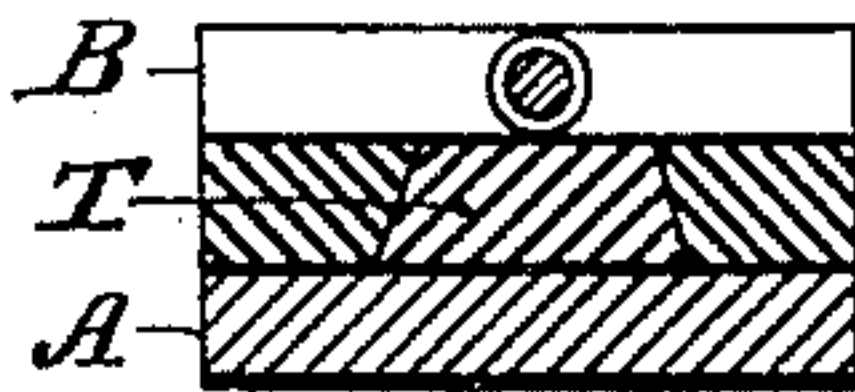


Fig. 4.



WITNESSES:

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ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 327,382, dated September 29, 1885.

Application filed March 20, 1885. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. COHEN, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to mechanism whereby the electric current is transmitted from the dynamo or other source of supply to the motor in the car in an electric-railway system; and it consists of an improved form of rigid metallic conductor, of wheel-brush, and of connecting means to convey the current from the brush to the motor, so constructed as to adapt it to inequalities in the road-bed.

In the accompanying drawings, Figure 1 is a car illustrating the application of the improved parts. Fig. 2 is a side elevation of the connecting mechanism, wheel-brush, rigid metallic conductor, and rail; Fig. 3, a front view of said connecting mechanism and brush, and Fig. 4 a transverse section of same through line *a a*.

It is unnecessary to an understanding of my invention and of its mode of application to describe an electric railway or the car and its motor. It is sufficient to say that the electric current is conveyed from a dynamo or other source of supply through a rigid metallic conductor located over or near and in a line with the rail, and from such conductor the current is taken up by contact with a brush moving along the surface thereof, and so carried by mechanism connected with the motor and the car.

My improvement applies, first, to the rigid metallic conductor, and consists in constructing it with an open base to avoid frictional contact with the moving brush other than at the desired part, and also so shaping it that water or other extraneous substances shall not drip or fall on the brush. I prefer to construct it with a rounded internal top surface to fit a wheel-brush having a convex periphery, and for this purpose it may properly be a section of a tube (less than half) to give it flaring sides, as seen at G, Fig. 2, or it may be a full half

with ribbed edges, and provided with outside lateral ribs or flanges to serve as deflecting-surfaces for water. In order further to protect such conducting-tube from the elements, and so increase its conductivity, and also for a support for the same, I provide a shield or cover, N, to and beneath which said tube is secured, and which in turn is bolted to the rail-sleeper.

It is obvious that other forms of brush may be used with this construction of the tube-conductor.

The brush F herein shown consists of one or more metallic wheels capable of conducting an electric current, having a bearing-surface against the tube-conductor and revolving on a journal or journals, L, having bearings in the connecting mechanism forming another part of my improvement.

It will be seen that the car, carrying the electric motor which propels it, moves upon the rails H, bringing the body of the car immediately over the tube-conductor G, the electric current being taken up and conveyed from said tube-conductor to the motor in the car through the connecting mechanism shown in Figs. 2, 3, and 4, which consists of two plates or bars, A and B, provided with a dovetailed recess and projection, respectively, (see T, Fig. 4,) serving as a vertical guide.

A cross-bar, C, carrying a vertical rod, E, is secured to the plate or bar B, carrying the wheel-brush F, which rod E moves downward within a coiled pull-spring, M, located between said cross-bar C on the plate B and a second cross-bar, D, on the plate A. Said cross-bar D is recessed vertically to allow the end of the rod E to pass through it, and said cross-bar D serves as a support for the spring M, the object of this construction being that the upward spring-pressure will bring the surface of the brush against the tube-conductor, and at the same time the plates A and B, constituting the connecting mechanism with the car, will slide vertically one within the other, when meeting with any inequalities in the road-bed, and avoid jarring and loosening of the parts. The plate A is secured to the body of the car at S, and the current is conveyed therefrom at *b b* by wires leading to the motor.

Having thus described my invention, what I claim is—

1. In an electric railway, a rigid metallic conductor leading the current from the dynamo or other source of supply to a brush moving freely therein provided with a rounded internal upper surface and flaring or flanged sides, as set forth.

2. In an electric railway system wherein a car is propelled by means of a motor driven by an electric current supplied through a rigid metallic conductor by means of a moving brush, mechanism for connecting said brush with the motor, consisting of two bars or plates sliding vertically, one within the other, against spring-pressure applied between them, one of which bars being rigidly attached to the car

and the other to the wheel-brush, substantially as described.

3. Mechanism for electrically connecting a moving brush bearing against a rigid metallic conductor with an electric-motor in a car, consisting of the plates or bars A and B, sliding one within the other, and having cross-bars C and D, respectively, guide-rod E, and spring M, constructed and operating substantially as set forth.

Intestimony whereof I have hereunto affixed my signature this 10th day of March, A. D. 1885.

ROBERT L. COHEN.

Witnesses:

FRANCIS S. BROWN,
H. T. FENTON.