

(No Model.)

J. C. HENDERSON.
ELECTRIC GRIP FOR RAILWAYS.

No. 323,675.

Patented Aug. 4, 1885.

Fig. 1.

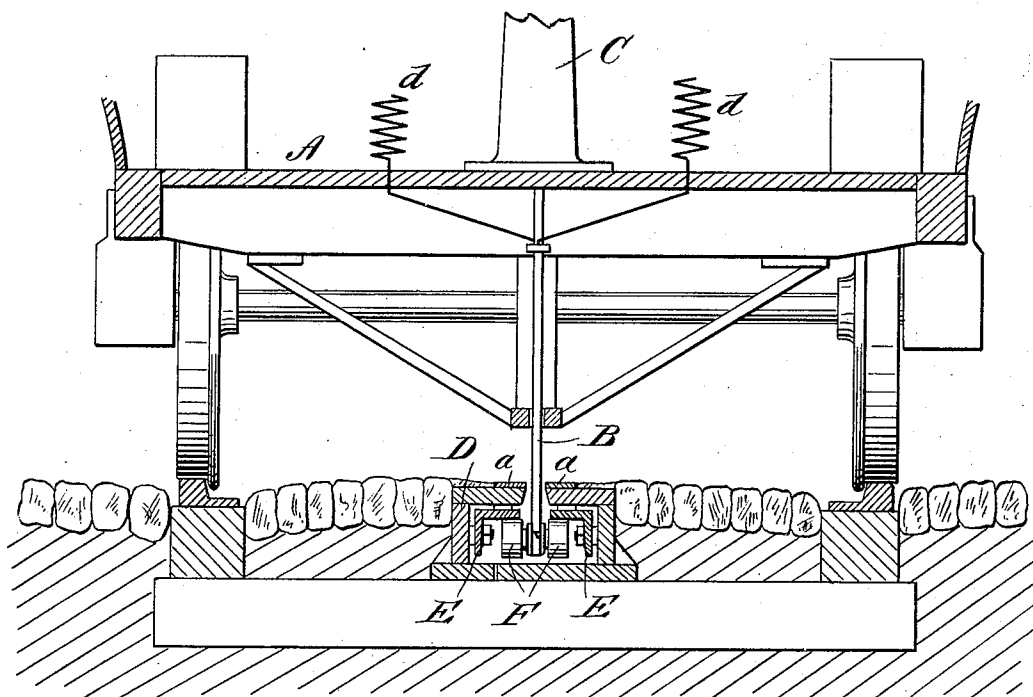
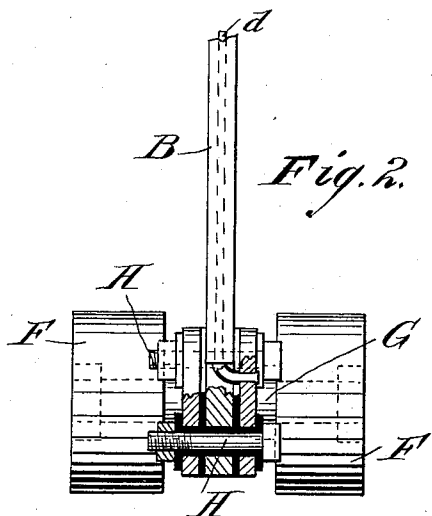


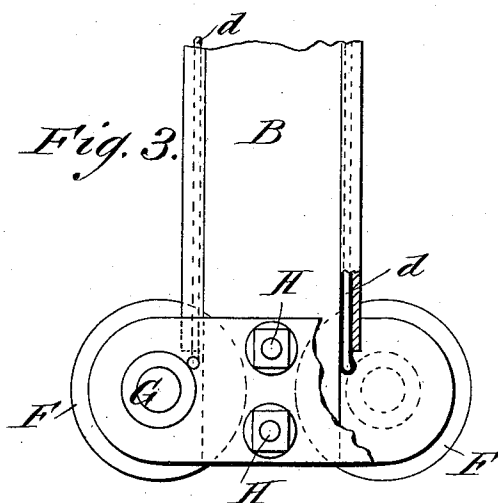
Fig. 2.



WITNESSES:

Donn Twitchell.
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Fig. 3.



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UNITED STATES PATENT OFFICE

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ELECTRIC GRIP FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 323,675, dated August 4, 1885.

Application filed January 23, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HENDERSON, of the city, county, and State of New York, have invented a new and Improved Electric Grip for Railways, of which the following is a full, clear, and exact description.

In the United States Letters Patent granted to me March 4, 1884, a grip for electric railways is shown in which a vertically-adjustable bar carries at its lower end rollers within a tube placed between the rails, so that by raising the bar the rollers could be made to grip the lower side of a bar in the tube.

This invention is more particularly designed to be applied to electric railways in which insulated conductors are arranged lengthwise of and within a longitudinally-slotted tube for operation in connection with contact-making wheels or rollers on opposite sides of a bar or bars arranged to pass through the longitudinal slot in the tube, and with which are combined conducting-wires that connect with the electric motor in the car.

My present invention is an improvement upon the grip in said patent, and is especially intended for use on suburban and elevated roads when cheapness of construction is the principal consideration.

The invention consists in a novel combination of adjustable gripping and contact-making devices and conducting bars or rails combined within a longitudinally-slotted box or tube arranged between the rails of the track, as hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-section of a road-bed and car having my improvements. Fig. 2 is a sectional elevation, upon a larger scale, of the adjusting-bar and gripping devices, forming also contact-making devices, and Fig. 3 a side view of the same.

The car A can carry a motor of any desired construction and arrangement. The adjustable bar B extends through a post, C, upon the car, and is to be fitted for movement by a screw and hand-wheel, as in the Letters Patent aforesaid. Between the rails and upon the

cross-ties is a box, D, of wood or other material, the top of which is made with a slot to allow the adjustable bar to enter, the sides of the slot being protected from wear by plates *a a*. Lengthwise of the box extend the two conductors E E, which are preferably made of angle-iron and attached to the opposite sides of the box by insulated supports, so that they are held at opposite sides of the adjustable bar. Upon the lower end of the adjustable bar rollers F F are held by means of axles G, which are attached to the bar by bolts H, and insulating material is placed between the axle G and the bar, and also around the connecting-bolt, so as to insulate the rollers from each other and from the bar. Through the adjustable bar pass two wires, *d d*, from the electric motor, and these wires have their lower ends connected with the axles G. By this construction and arrangement a current is made to pass by one conductor, E, to one wheel, thence by the wire to the motor, and, returning by the other wire, goes through the opposite wheel and conductor back to the starting-point. At the same time the adjustable bar by being raised causes the rollers to grip the rails or conductors firmly, thereby giving increased traction for the propulsion of the car, by drawing the propelling-wheels of the car down on the main rails in the same manner, but with better effect and more equal or central action, as in my Letters Patent hereinbefore referred to, using only a single rail within the longitudinally-slotted tube. There being two rollers at each side of the adjustable bar, the pressure and strain remain central and equal upon both conductors, and the electric current, instead of being made to pass through the adjustable bar, can be made to go through the wheels and rails, as in the Letters Patent aforesaid.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In electric railways, the combination, with the longitudinally-slotted tube D, arranged between the rails of the track upon which the car carrying the motor is designed to run, of the flanged rail-shaped conductors E E within the tube on opposite sides of its longitudinal slot, and the vertically-adjustable bar B, with its attached wheels or rollers F F, arranged to

bear under the flanges of said conductors on opposite sides of said bar, and serving to give increased traction, substantially as specified.

2. The combination of the motor-car A, the longitudinally-slotted tube D, the flanged rail-shaped conductors E E within the tube, the vertically-adjustable bar B, with its attached insulated wheels or rollers F F, arranged on opposite sides of said bar and to bear against

the under sides of the flanges of the rails or conductors E E, and the conducting-wires *d d*, essentially as shown and described, and for the purposes herein set forth.

JOHN C. HENDERSON.

Witnesses:

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