

No. 612,351.

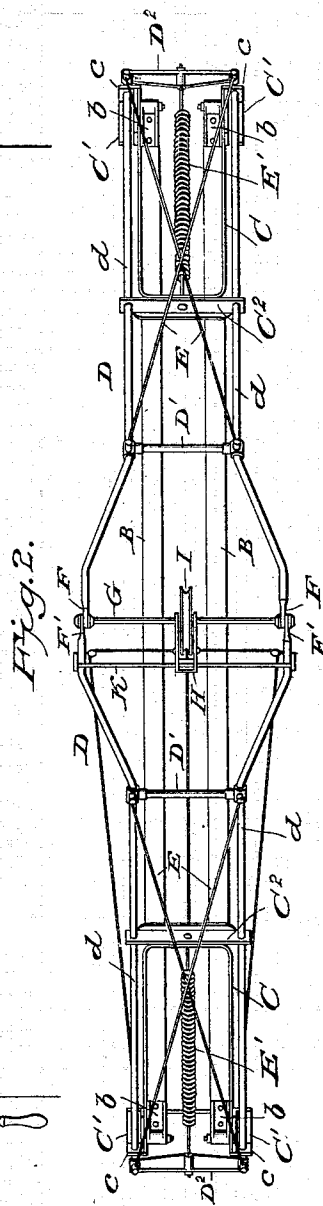
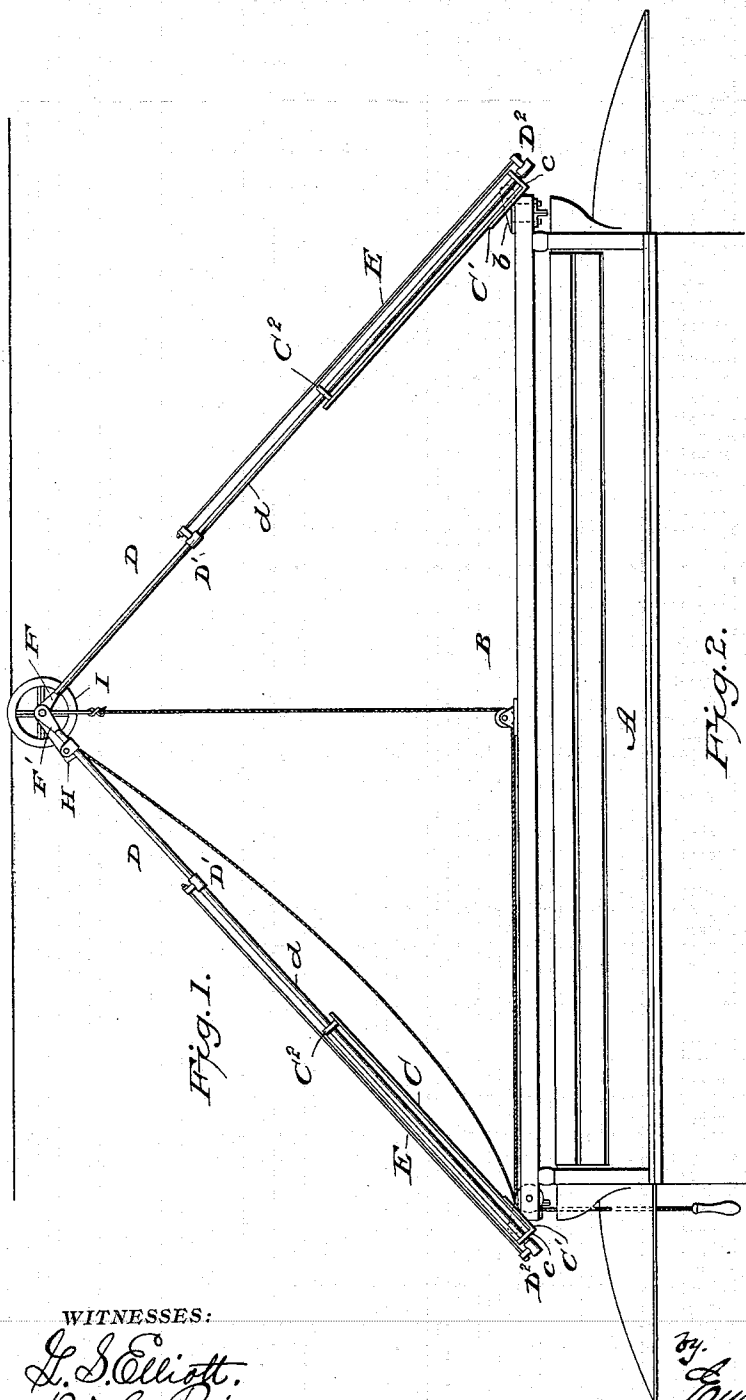
Patented Oct. 11, 1898.

E. LANE.
TROLLEY WHEEL SUPPORT.

(Application filed June 28, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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D. L. Rice

INVENTOR :

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2 Sheets—Sheet 2.

Fig. 3.

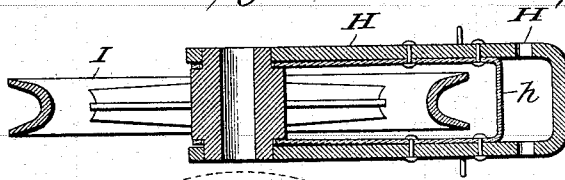


Fig. 4.

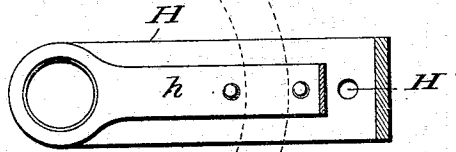


Fig. 5.

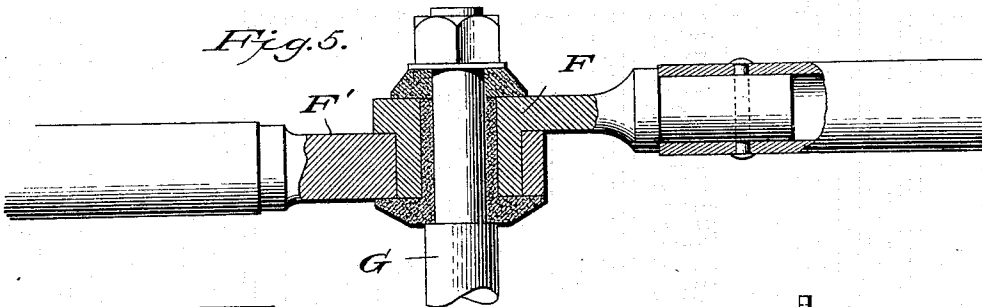


Fig. 6.

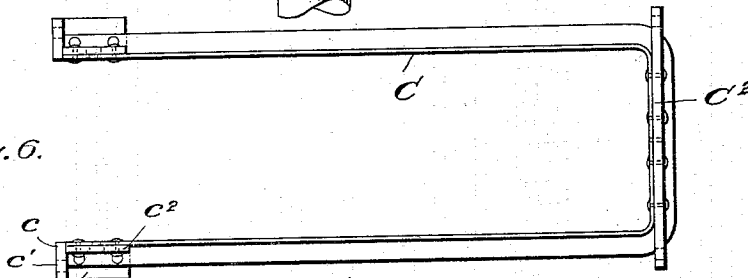
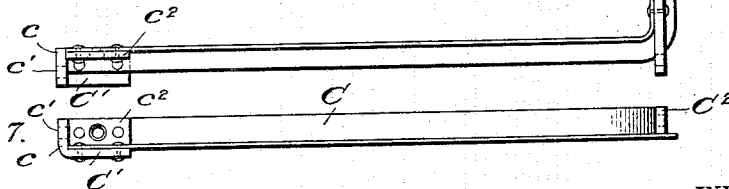


Fig. 7.



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UNITED STATES PATENT OFFICE.

EDWIN LANE, OF JOHNSTOWN, PENNSYLVANIA.

TROLLEY-WHEEL SUPPORT.

SPECIFICATION forming part of Letters Patent No. 612,351, dated October 11, 1898.

Application filed June 28, 1897. Serial No. 642,667. (No model.)

To all whom it may concern:

Be it known that I, EDWIN LANE, a citizen of the United States of America, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Wheel Supports; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in trolley-wheel supports for electric-railway cars, and the present invention embodies an improved form of trolley pole or support for the trolley-wheel, in which the wheel-supporting bar is insulated from the frame which carries said bar, connection being made between the trolley-wheel and a bar beneath, upon which is mounted a bail or open-ended loop which engages with the bar upon which the trolley-wheel is mounted and with the trolley-wheel, said bail being movable laterally upon each of the bars and is in electrical contact with the trolley-wheel and with the lower bar, so as to establish electrical communication between the trolley-wheel and support therefor.

The invention also embodies the particular construction of the trolley-support, the same being constructed so as to provide for an upward pressure of the trolley-wheel against the feed-wire, also to permit lateral adjustment of said wheel from the car automatically, as well as means for lowering the trolley-support, as will be hereinafter fully set forth.

In the accompanying drawings, which illustrate the invention, Figure 1 is a side elevation. Fig. 2 is a plan view. Fig. 3 is a sectional view of the trolley-wheel and bail, which is electrically and mechanically connected thereto. Fig. 4 is a sectional view of the bail, the trolley-wheel being shown in dotted lines. Fig. 5 is a plan view, partly in section, showing one end of the bar upon which the trolley-wheel is mounted and the manner of connecting the ends of the supports therefor to each other and to the bar.

Fig. 6 is a plan view of a U-shaped frame which is attached to the car and supports the extensible frame, and Fig. 7 is a side elevation of the same.

As indicated in the drawings, A represents a well-known form of street-car, upon the top of which are suitably mounted boards B B, the ends of which project beyond the means employed for connecting the same to the car, and to the ends of these boards B are bolted or otherwise secured fixtures *b*, which are provided with eyes or openings for bolting thereto open-ended frames C. The frames C are preferably formed of angle-iron and have a vertical flange and a flange at right angles therewith, and to the terminals of these open-ended or U-shaped frames are secured angle-plates C' of such construction as to provide upwardly-projecting members *c*, having apertures *c'*, which are on a line with apertures in the ends of a flat bar C², which is carried by the upper or opposite end of the frames C. To the vertical portion of the angle-bar, adjacent to their terminals, are secured reinforcing-plates *c*², having apertures which register with the horizontal apertures in the end portions of the frames, and through these apertures pass the bolts for connecting the frames C to the fixtures *b*, carried by the ends of the boards B. Upon the boards B are journaled guide-pulleys of any suitable construction, over which pass flexible connections or ropes for moving the trolley-wheel laterally upon its supporting-bar and for lowering the frames or supports for said wheel.

D refers to the movable or vibrating sections of the trolley-wheel support, which are made up of side bars or tubes *d*, of such shape as to provide parallel members which pass through the apertures in the frame C, as hereinbefore set forth, and the parallel members are connected to each other by upper and lower cross-bars D' D², the upper cross-bar being connected to the side pieces by suitable couplings having upwardly-projecting studs, while the lower cross-bars are preferably made of angle-plates with sockets, with which the ends of the tubes *d* engage, said cross-bars having upwardly-projecting lugs.

E refers to brace-rods which are attached to the lugs which project from the cross-bars,

so that said brace-rods will be positioned slightly above the frames C.

E' refers to springs which are connected to the center portion of the upper part of the frame C, the lower ends of said springs having bars which pass through central openings in the cross-pieces D² and are provided with adjusting-nuts for regulating the tension of said springs.

Above the cross-bars D' the side pieces of the frames D are bent so as to flare outwardly and are again bent near their upper ends to provide parallel portions, to which are suitably secured couplings F F', as shown in Fig. 5, which couplings engage with each other and carry fillings of fiber or other non-conducting material, which are provided with central openings, through which pass the reduced ends of the shaft or rod G, upon which the trolley-wheel is mounted.

By the construction shown in Fig. 5 it will be noted that the two frames are pivotally connected to each other at their apex and are electrically connected with each other and that the shaft upon which the trolley-wheel turns is insulated from the frames. The insulating material is preferably fiber, one piece being in the form of a tube with a flanged end and the other in the form of a washer.

I refers to the trolley-wheel, which is mounted on the rod G so as to have both a rotary and a lateral movement thereon, and the hub of said trolley-wheel is reduced at its end for engagement with a U-shaped bail H, which carries a spring-plate h, having openings or eyes which embrace the hub. The bail H is provided with openings H', through which passes a bar K, which lies parallel with the bar G and is connected with the side pieces d of the frames D, so as to be in electrical connection therewith, and this bail H has attached thereto the flexible connections for moving the bail and trolley-wheel laterally upon its support, said connections extending over guide-pulleys carried by the side pieces d and by the pulleys mounted on the trolley-boards B. The flexible connection for lowering the trolley-wheel support may be connected to the bail or to a loop which engages with the upper ends of the supports, adjacent to the shaft of the rod G.

In practice this device provides for the movement of the trolley-wheel both laterally and vertically and will permit one of the movable members of the support to be depressed to a greater extent than the other, according to the direction in which the car is moving, which permits the trolley-wheel and its support to adjust itself automatically to the different inclinations of the feed-wire, and with this device it is not necessary to reverse the trolley-support.

The current may be taken from either end of the car, as the sliding frames or supports are electrically connected to each other.

When the wires which lead to the motor of the car are connected to the tubular or slid-

ing frame, there is direct communication therewith, which is not in any way interrupted by one part moving upon the other.

Various modifications in the construction may be made without departing from the spirit of my invention.

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

1. In a trolley-support, a pair of frames having parallel side bars, guides positioned beyond the side pieces thereof, means for pivotally attaching the lower ends of the frames to the opposite ends of a car, in combination with sliding frames having side pieces the lower portions of which are parallel, said parallel portions engaging the guides on the frames attached to the car the upper portion of the side bars of the sliding frames being spread, a transverse connecting-bar positioned at the apex of the sliding frames, a trolley-wheel mounted on said bar and springs for projecting upward the sliding frames, the parts being assembled substantially as shown.

2. In a trolley-wheel support, a pair of U-shaped frames having at their upper and lower portions laterally-projecting guides, fixtures for holding the lower portions of said frames in pivotal engagement with the ends of a platform carried by the top of the car, in combination with a pair of sliding frames the lower parallel portions thereof passing through the guides, cross-bars connecting the side bars of the sliding frames to each other, brace-rods extending from the cross-bars so as to overlie the U-shaped frames the upper ends of the side bars of the sliding frames diverging and a bar upon which the trolley-wheel is mounted, said bar being positioned at the apex of the sliding frames to hold them in pivotal engagement with each other, substantially as shown.

3. In a trolley-wheel support, a pair of angle-iron frames bent to present parallel side members and an upper transverse portion, fixtures attached to the lower ends of the parallel members and to the opposite ends of a platform carried by the car to provide means to effect a pivotal engagement of the frames with the platform, apertured guides attached to the ends and to the transverse portions of the frames, in combination with sliding frames having parallel side members which pass through the guides carried by the pivoted frames, cross-bars attached to the side bars and positioned so as to be above and below the pivoted frame, springs connecting the transverse portions of the pivoted frames with the lower cross-bars of the sliding frames and a bar upon which the trolley-wheel is mounted positioned at the apex of the sliding frames, substantially as shown and for the purpose set forth.

4. In a trolley-wheel support, the combination with the U-shaped frames pivotally attached at their lower ends to the opposite ends

of supporting bars carried by the car, of
frames held in sliding engagement therewith,
said frames being pivotally connected to
each other at their upper ends, springs con-
necting the pivoted and sliding frames with
5 each other so as to hold the sliding frames
projected upward, the upper portion of the
sliding frames being spread, a trolley-wheel
mounted on the bar at the apex of the sliding

frames and means for manually moving the ro
wheel laterally, substantially as shown and
for the purpose set forth.

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

EDWIN LANE.

Witnesses:

WILLIAM O. LONG,
FRANK EDMISTON.