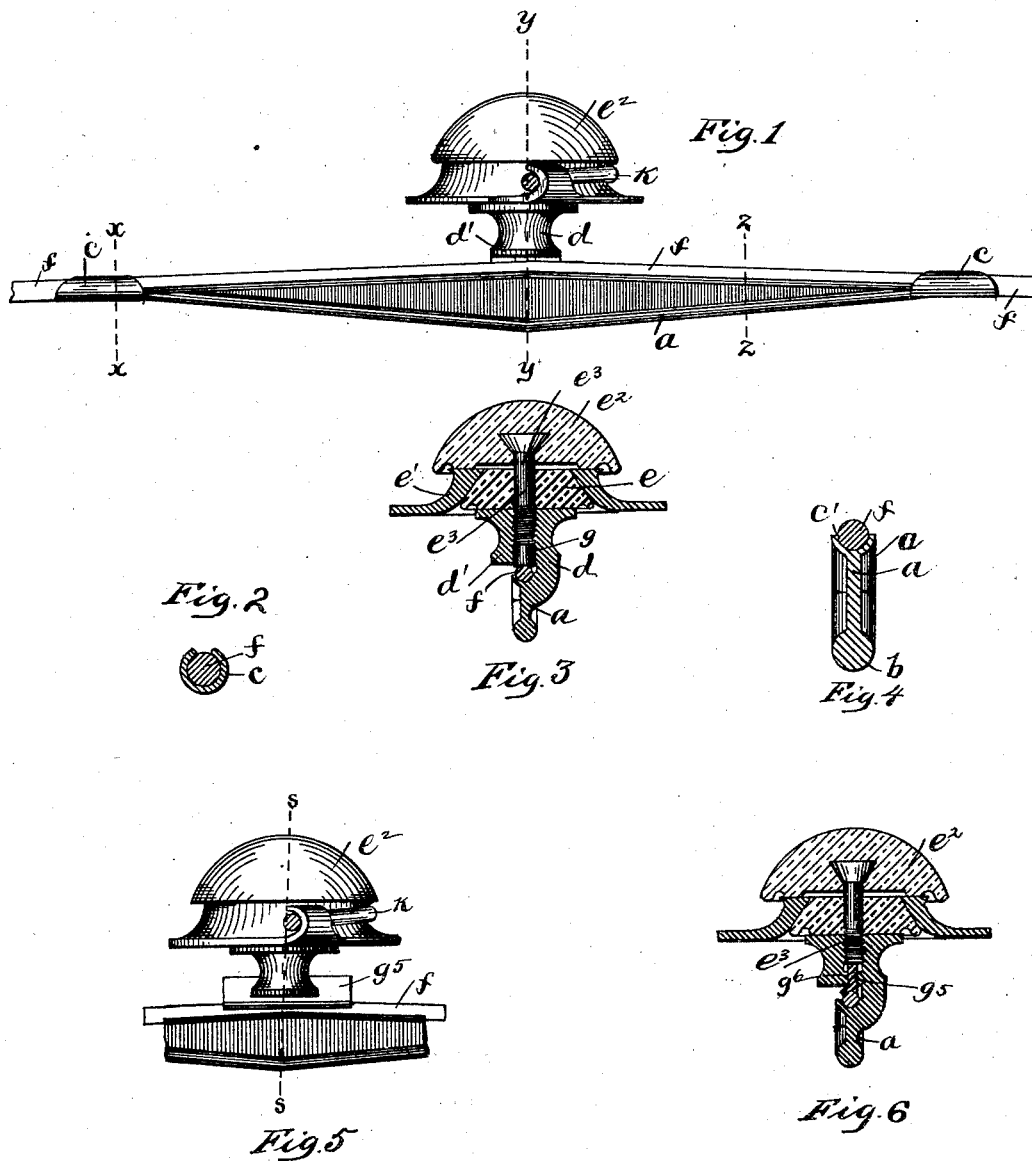


(No Model.)

G. H. SCRANTON & L. SPILLMAN.
TROLLEY WIRE SUPPORT.

No. 489,097.

Patented Jan. 3, 1893.



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UNITED STATES PATENT OFFICE.

GEORGE H. SCRANTON AND LORENZ SPILLMAN, OF COLUMBUS, OHIO.

TROLLEY-WIRE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 489,097, dated January 3, 1893.

Application filed May 27, 1892. Serial No. 434,577. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. SCRANTON and LORENZ SPILLMAN, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Trolley and Suspension Wire Connections, of which the following is a specification.

Our invention relates to the improvement of suspension and trolley wire connections for electric railways and the objects of our invention are, to provide a new and improved device of this class of superior construction and arrangement of parts; to provide a lasting and reliable device of this kind which will prevent the breaking of the circuit or flashing which ordinarily occurs at the juncture of the suspension bar and trolley wire; to obviate the necessity of employing solder or any other projection which will interfere with the proper working of the trolley wheel or result in unequal wear of the latter, and to produce other improvements which will be more specifically pointed out hereinafter. These objects we accomplish in the manner illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of our improved connection. Fig. 2 is an enlarged transverse section on line *x x* of Fig. 1. Fig. 3 is a central vertical section on line *y y* of Fig. 1. Fig. 4 is an enlarged transverse section on line *z z* of Fig. 1. Fig. 5 is a view in elevation of the central portion of our connection showing a modification in the manner of holding the wire in connection with the connecting bar and Fig. 6 is a central vertical section on line *s s* of Fig. 5.

Similar letters refer to similar parts throughout the several views.

a represents the metallic body of our improved connecting bar or plate which as shown in the drawings, is preferably of the flattened or elongated diamond form. The lower edge of the bar *a* is as shown at *b*, rounded to form the greater portion of the periphery of a wire body. This rounded lower portion has formed therewith, at each end two upwardly projecting and inwardly curved oppositely located clamping ears *c*.

The upper side or edge of the bar *a* is as shown, provided throughout its length with a shallow groove *c'*. From one side of the bar *a*, at or near the center of its length, extends upwardly an arm or bracket *d*, which a short distance above the upper side of the bar *a*, is provided with a projecting shoulder portion *d'* which overhangs the central portion of said bar.

Upon the upper end or head of the bracket *d* rests an insulator piece *e*, preferably of the cone frustum shape shown, which is surrounded by and supports a metallic ring *e'* of the usual form. Upon the upper side of this ring *e'* bears a dome-piece *e''* of the insulating material which is provided as shown in the drawings, with a central downwardly extending metallic screw *e'''*, said screw passing through the insulating piece *e*, thence into and engaging with a central screw-hole in the head of the bracket *d*. This bracket *d* may be modified in form to adapt it to other forms of trolley hangers. In connecting the trolley wire which is indicated at *f*, with the bar *a*, said bar is made to support said wire, the latter or that portion of the latter which is beneath and adjacent to the suspension wire being laid in the groove *c'* of the bar *a* and passing between the ears *c*. This being done, said ears *c* are clamped inwardly over the trolley wire to form a firm connection with said wire at the ends of the bar. As shown in the drawings, the thickness of the outer end portion of the bar *a* is so slight at the point where the trolley wire enters said bar, as to cause the rounded lower portion of the bar *a* to form approximately a continuation of the surface of the trolley wire. In order to further secure the trolley wire in its position in the bar *a*, we provide in the central screw opening of the bracket *d*, a short pin or plug *g* the lower end of which is adapted to bear and rest upon the trolley wire *f* and the upper end of which is adapted to be pressed by the inner end of the screw *e'''*.

The suspension wire which is indicated at *k* is connected with the ring *e'* in the usual manner as shown in Figs. 1 and 5 of the drawings. From the construction herein shown and described, it will be seen that a new and improved means is provided for sup-

porting the trolley wire at points beneath the suspension wires, and that the means thus provided are such as to cause the under side of the bar *a* to form approximately a continuation of the trolley wire from the points of connection of said wire and bar. This being true, it will be seen that the trolley wheel running against the under side of the trolley wire in the usual manner, will run from said wire upon the lower rounded edge of said bar *a* and continue throughout the length of the latter until it again runs upon the wire.

By our device it will be seen that the trolley wire is afforded a support at its junction with the suspension wire instead of a suspension as is ordinarily done and that one side of the bracket arm or hanger is open to facilitate the lateral removal of the trolley wire when desired for the purpose of taking up the slack in said wire.

From the construction herein shown and described, it is evident that our improved trolley wire supporting plate or bar may be produced at a reasonable cost of manufacture, and that the connection formed therewith will be durable and effective.

As shown in Figs. 5 and 6 of the drawings, we may substitute for the binding plug or pin *g*, a horizontal key-piece *g*⁵ which as shown in said figures, is inserted through a slotted opening or bifurcation *g*⁶ in the upper or shoulder

portion of the bracket *d* and which is held against the wire *f* by means of the screw *c*³.

Having now fully described our invention, what we claim and desire to secure by Letters Patent is,

1. In a device for supporting trolley wires from a suspension wire, the bar or plate *a* having a rounded lower side and a grooved upper side as described and a bracket arm rising from and over-hanging said bar, substantially as and for the purpose specified.

2. In a device for supporting trolley wires from a suspension wire, the combination of the metallic bar or plate having a rounded lower edge, ear terminations *c* on the upper edge thereof, a groove in the upper side of said bar *a* and a suspension wire bracket rising from one side of said bar *d*, substantially as specified.

3. In a device for supporting trolley wires, the combination of the plate *a*, end ears *c* as described thereon a groove in the upper side of said bar, a suspension wire bracket rising from said bar and a vertically adjustable screw in said bracket, substantially as and for the purpose specified.

GEORGE H. SCRANTON.
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In presence of—

C. C. SHEPHERD,
H. B. BRADSHAW.