

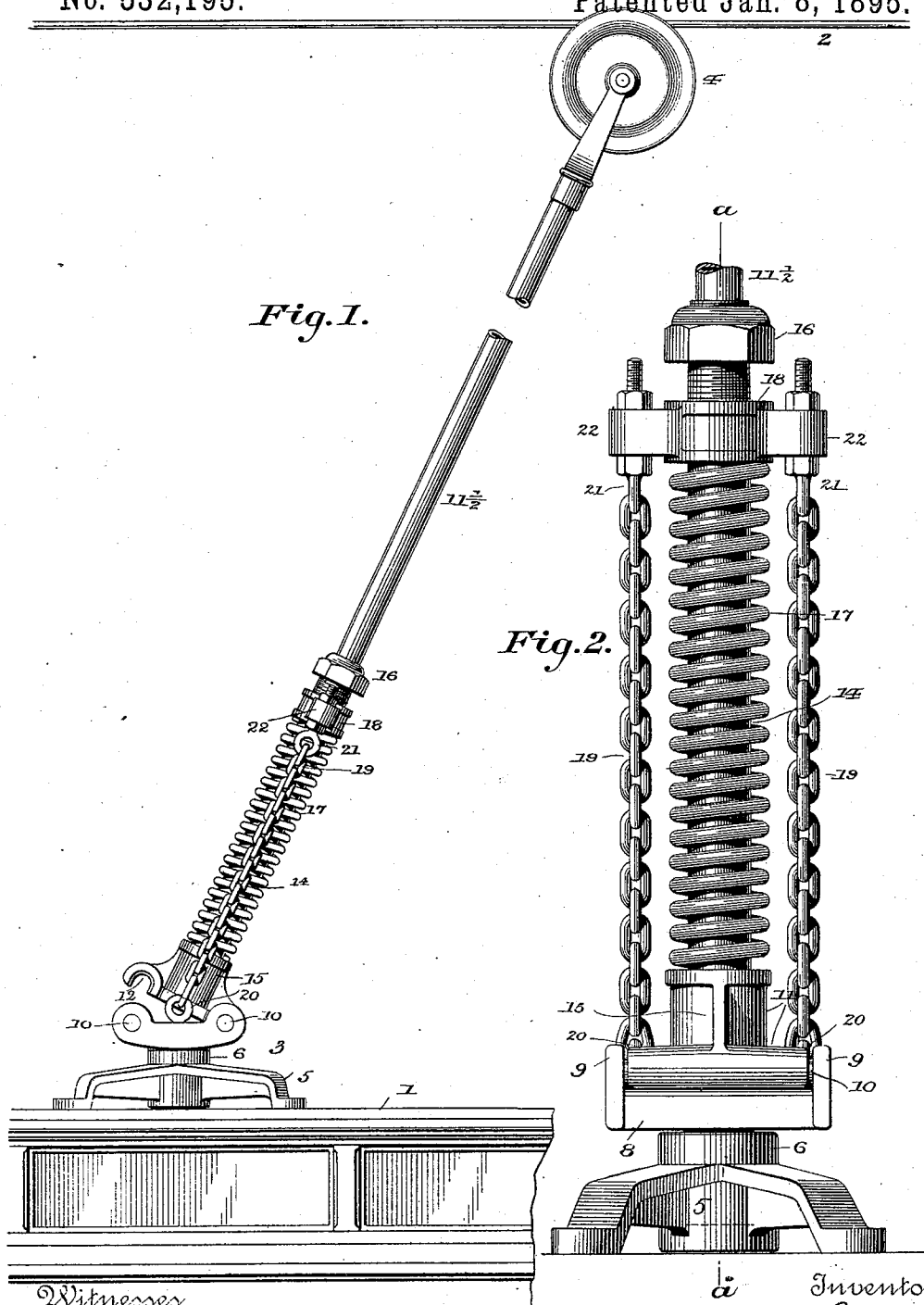
(No Model.)

2 Sheets—Sheet 1.

L. T. GIBBS.
TROLLEY SUPPORT.

No. 532,195.

Patented Jan. 8, 1895.



Witnesses
Raymond H. Barnes.
James J. Elmore

Inventor
L. T. Gibbs
By *P. F. Lodge*
Attorney

(No Model.)

2 Sheets—Sheet 2.

L. T. GIBBS.
TROLLEY SUPPORT.

No. 532,195.

Patented Jan. 8, 1895.

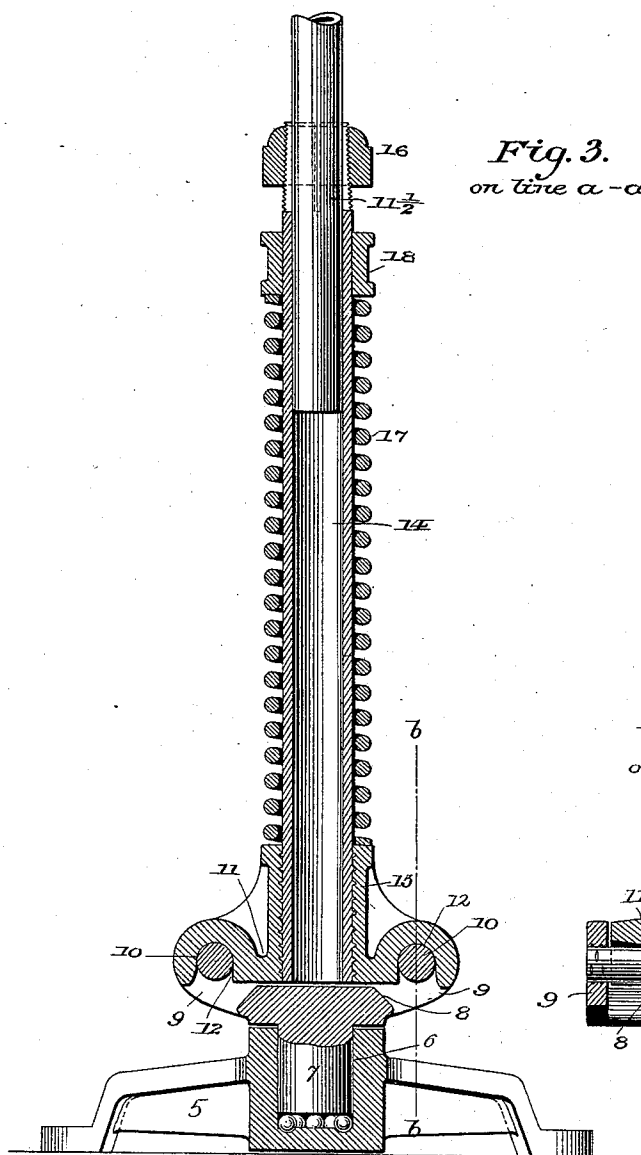


Fig. 3.
on line a-a.

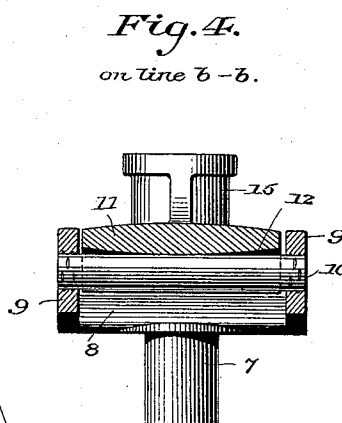


Fig. 4.
on line b-b.

Witnesses

Raymond H. Barnes.

James S. Elmore

Inventor

L. T. Gibbs

By O. T. Lodge

Attorney

UNITED STATES PATENT OFFICE.

LUCIUS T. GIBBS, OF MILWAUKEE, WISCONSIN.

TROLLEY-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 532,195, dated January 8, 1895.

Application filed July 28, 1893. Serial No. 481,748. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS T. GIBBS, of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Trolley-Supports, of which the following is a specification.

My invention relates to trolley supports for electric railway systems which are attached to the car and serve as a means for conducting the electric current from the wire to the motor on the car, and has reference more particularly to that class of supports embodying a pole pivoted to the car to swing back and forth, and carrying at its end a trolley wheel or other contacting device adapted to traverse the wire as the car advances.

My invention consists in the various improvements in devices of this character relating more particularly to the manner of pivoting or hinging the support to the car; to means for causing the pole to assume normally an upright position to maintain the contact of the wheel with the wire; to means for permitting a lateral movement of the pole on rounding curves, and to various other details more fully described hereinafter.

In the accompanying drawings Figure 1 is a side elevation of my improved trolley support, a portion of the roof of the car being shown to which the support is attached. Fig. 2 is an end view of the same. Fig. 3, is a longitudinal section on the line *a— a* of the preceding figure. Fig. 4 is a vertical section on the line *b— b* of Fig. 1.

Referring to the drawings, 1 represents a portion of the roof of a car; 2, the usual overhead conducting wire; 3, a trolley support sustained at its lower end by the car, and provided at its upper end with a trolley wheel 4, adapted to travel along the conducting wire as usual in devices of this character.

My improved support consists of a base or tripod 5, preferably of cast metal, which is seated upon and secured rigidly to the top of the car, and which is provided with a central vertical socket 6, within which is seated loosely, so as to turn freely with a swiveling action, a depending spindle 7, projecting from a casting 8. This casting is formed at its sides with vertical flanges 9, between the ends of which cylindrical pins 10 are fixed, preferably during the casting operation.

11 represents a base or casting which sustains the trolley pole 11½, in a manner more fully described hereinafter, and which is placed upon the casting 8, the base being sustained by the two pins on the casting which enter semi-circular grooves 12 at the ends of the base in the under side of the same, the arrangement being such that the base will tip on the two pins alternately as it is moved back and forth. It will be noted that the cylindrical pins form bearing surfaces for the base at the front and rear only, so that when the base rocks on these bearing surfaces it will be compelled to move in a truly longitudinal line, a limited lateral movement being permitted by forming the inner surfaces of the semi-circular grooves in a peculiar manner described hereinafter.

The base 11 is formed at its center with an upwardly extending boss 15, containing a vertical socket into which is firmly fixed, preferably during the casting operation, the lower end of a tube 14, having its upper end split, tapered, and threaded externally as plainly shown, the trolley pole proper 11½ which is preferably in the form of a metallic tube, being inserted in the split end of the tube and secured by means of a nut 16, acting to compress the sides of the tube upon the pole. This manner of securing the pole in place, admits of its longitudinal adjustment, and it may be moved outward or inward corresponding with the varying conditions encountered in practice.

17 represents a spiral spring which encircles the tube, its lower end being seated upon the boss on the base, while its upper end bears against a collar 18, loosely surrounding the tube so as to slide thereon. This collar is connected to the swiveling casting by means of two chains 19 secured at their lower ends to eyes 20, fixed to the sides of the casting, and connected at their upper ends to eye bolts 21, secured to ears 22 extending laterally from the sides of the collar.

From this description it will be seen that the spring tends normally through the connection of the chains with the collar, to hold the former taut, and consequently to maintain the tube, and tipping base sustaining the same, in an upright position, the base being sustained while in this position by the two

pins before alluded to. It will further be seen that the construction described will admit of the pole being moved back and forth, the base tipping first on one pin and then on the other according as the pole is moved, the spring at the same time being compressed by the collar and chain, and its expansion tending to hold the base to its seat and maintain the perpendicularity of the pole.

10 In order that the pole in rounding curves may move sidewise so that the trolley may follow the wire truly, I form the inner surfaces of the semi-circular grooves in the base with a downward curvature at their centers, 15 as shown in Fig. 4, the construction being such that a tipping or rocking support is afforded by the pins, the movement of the pole resulting therefrom being in a direction transverse to its back and forth movement before 20 described.

I propose to reduce the friction between the rigid tripod and the casting due to the swiveling action of the latter to a minimum, by forming a circular groove in the socket of the 25 tripod in which a series of friction balls is placed, these balls being thus in a position to sustain the spindle on the casting.

While I have described and illustrated my invention as embodied in its preferred form, 30 and a form applicable for practical purposes, it will be understood that various changes in the details of the device, which will suggest themselves to persons familiar with the art, may be made without departing from the

limits of my invention, provided the operation 35 and function of the parts are substantially as indicated above.

Having thus described my invention, I claim—

1. In a trolley support the combination of 40 the stand adapted to be secured to the car and provided at its front and rear only with transverse bearing surfaces, the base adapted to receive the pole and formed at its ends to be sustained by the bearing surfaces and to rock 45 thereon back and forth and laterally, and means tending to hold the base yieldingly in an upright position.

2. In a trolley support the combination of 50 the stand adapted to be secured to the car and provided at its front and rear with cylindrical bearing surfaces, the base adapted to sustain the pole and provided with semi-circular 55 grooves to receive the cylindrical bearing surfaces, the inner surface of said grooves being curved downward at their centers, and means 60 tending to yieldingly hold the base in an upright position; whereby the base and pole sustained thereby may swing back and forth and also laterally in rounding curves.

In testimony whereof I hereunto set my hand, this 15th day of May, 1893, in the presence of two attesting witnesses.

LUCIUS T. GIBBS.

Witnesses:

F. H. WHITNEY,
C. L. JONES.