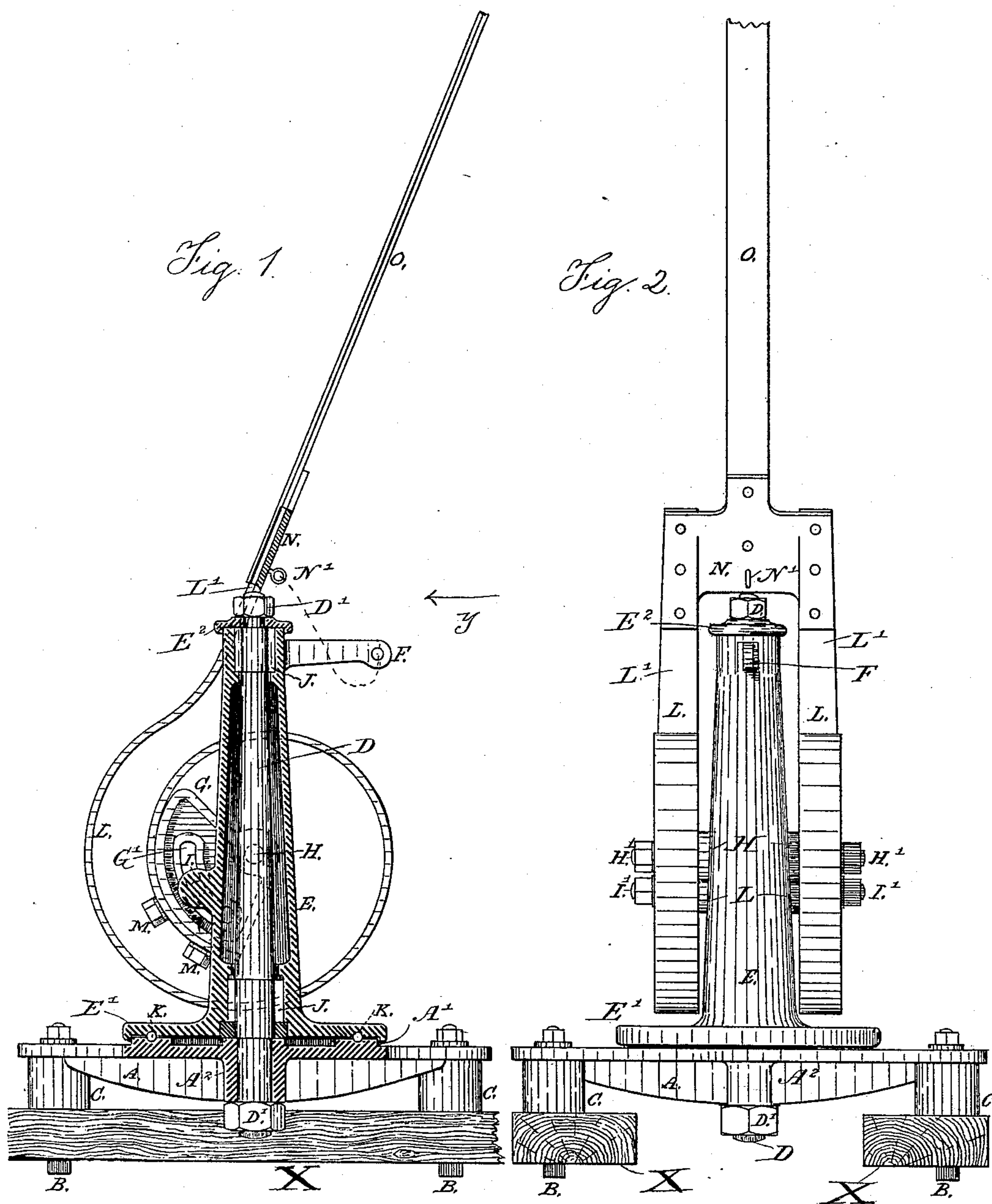


(No Model.)

R. M. JONES.
TROLLEY STAND.

No. 452,186.

Patented May 12, 1891.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT M. JONES, OF SALT LAKE CITY, UTAH TERRITORY.

TROLLEY-STAND.

SPECIFICATION forming part of Letters Patent No. 452,186, dated May 12, 1891.

Application filed December 29, 1890. Serial No. 376,033. (No model.)

To all whom it may concern:

Be it known that I, ROBERT M. JONES, a citizen of the United States, residing in the city of Salt Lake, in the county of Salt Lake and Territory of Utah, have invented certain Improvements in Stands for Trolleys for Electric-Railway Systems, of which the following is a specification.

My invention relates to that class of trolley-stands for use on electric railways wherein the trolley is held up to the conductor with elastic pressure imparted by a spring, and the base upon which the trolley-pole is mounted is adapted to rotate or oscillate on a vertical axis, whereby the trolley is better enabled to follow the conductor, and the accidental opening of the circuit is measurably avoided.

My invention will be hereinafter fully described, and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a sectional side elevation of my trolley-stand, represented as secured to the timbers forming the roof of the car; and Fig. 2 is a rear view of the same looking in the direction indicated by the arrow y in Fig. 1.

In the views, $X X$ represent two stout timbers laid longitudinally of the car-roof and preferably in the center, forming the crown of the roof. Over and between these timbers is set the circular base-plate A of the stand, which is secured at its sides to the timbers X by means of bolts or screws set therein. There may be a thickness of car-spring rubber or other springy material C interposed between the plate A and the timbers X to relieve said plate as far as possible from all jars and shocks arising from irregularities of the track and road-bed; but, while these interposed springs are preferable, they are in no wise essential.

On the upper surface of the base-plate A is formed a raised annular ring A' , which is provided with a groove of semicircular cross-section, and over which ring fits the lower flanged face E' of the upright hollow casing E of the stand. In this lower flanged face E' of the casing E is also cut an annular groove of semicircular cross-section, which, when said face E' is brought down to its place over the annular ring A' , coincides with the groove

in the latter, forming an annular groove or channel of circular cross-section, in which are placed, in assembling the parts, a number of metallic balls or spheres $K K$, preferably of such a size as to raise the flange of the casing E slightly out of contact with the ring A' , thereby reducing friction and the wear of the faces one upon the other.

As before stated, the casing E is hollow, and down through its interior passes the central spindle D of the stand, about which the upper casing turns, and which, being collared in a cap E^2 over the upper end of casing E and at its lower end in an annular ring A^2 inside ring A' and fitted with nuts D' at both ends, secures the upper moving casing E of the stand to the base-plate A . From opposite sides of the upright casing E , on the opposite sides of the car, project two lugs $H H$, to which are secured by means of nuts and bolts $H' H'$ two swinging brackets $G G$, one on either side of the car. These brackets G are of the shape of a sector of a circle, and in the circular side of the said bracket is formed a slot G' , in which plays a screw-threaded stud I , to which the bracket G is secured by a nut I' . Thus it will be seen that the brackets G may be set at any desired angle with regard to the upright E and secured in such position by tightening the nuts I' . To the outer curved face of the brackets G are secured by means of screws, bolts, or the like $M M$ two strong helicoidal steel springs $L L$, which make, as shown, about one and one-half turn, and are curved at their upper free ends L' in an upward and rear direction, as will be readily understood. The two ends $L' L'$ of these springs are tied together by a stout metallic yoke N , to which is bolted the pole O , bearing the trolley.

If desired, in order to limit the movement of the trolley-pole in a forward direction, a chain or cord of suitable length may be secured to the eyes N' and F ; but this, of course, is not essential to my invention.

Thus it will be seen that my trolley-stand affords great improvements over the ordinary base and to a great extent obviates the disagreeable effects of the latter, as the mounting is of such a nature as to admit of the turning of the trolley in a great number of directions, all the while maintaining a steady

current through the car-motor. It will also be seen that my improved trolley-stand admits of the complete turning of the trolley in passing under "pull-off wires" and "span-wires," and also affords perfect alignment of the wheel with the wire in passing curves.

Having thus described my invention, I claim—

1. In a trolley-stand, the combination, with the base-plate mounted elastically on the car-body, of the upright casing E, mounted to turn thereon, and the trolley and its pole mounted elastically upon said rotary upright E, whereby the trolley is permitted to adjust itself to the wires in both a vertical and lateral direction, substantially as and for the purposes set forth.

2. In a trolley-stand, the combination, with the base-plate mounted elastically on the car-body, of the upright casing E, mounted to turn thereon, the trolley and its pole mounted elastically on said upright E, and means of adjustment between the trolley-pole and said

rotary upright, whereby the trolley may be adjusted to wires of different heights and is at the same time permitted to adjust itself to the wires in both a vertical and horizontal direction automatically, substantially as and for the purposes set forth.

3. In a trolley-stand, the combination, with the base-plate mounted elastically on the car-body, of the upright casing E, mounted to turn thereon, the trolley and its pole, and a spring or springs arranged between said trolley-pole and the rotary upright E, whereby the trolley is held elastically against the wires and is permitted to adjust itself thereto in both a vertical and lateral direction, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT M. JONES.

Witnesses:

LE ROY MANSFIELD,
THOMAS R. THOMPSON.