

(No Model.)

F. N. KELSEY.
TROLLEY STAND.

No. 529,552.

Patented Nov. 20, 1894.

Fig. 1

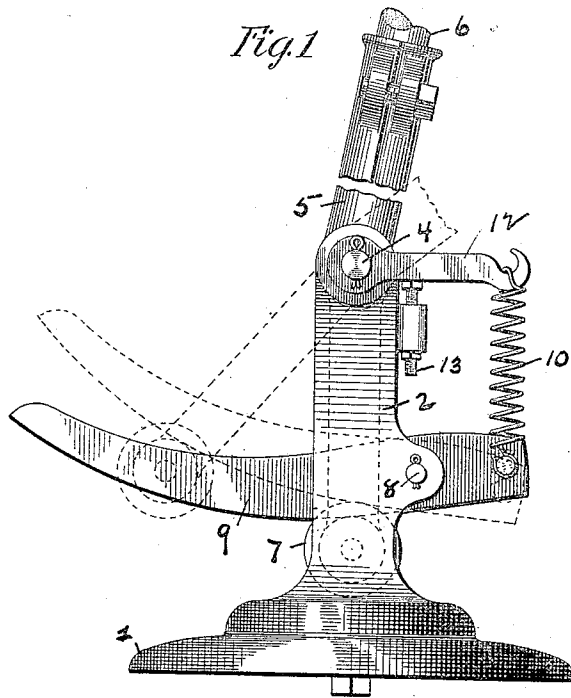
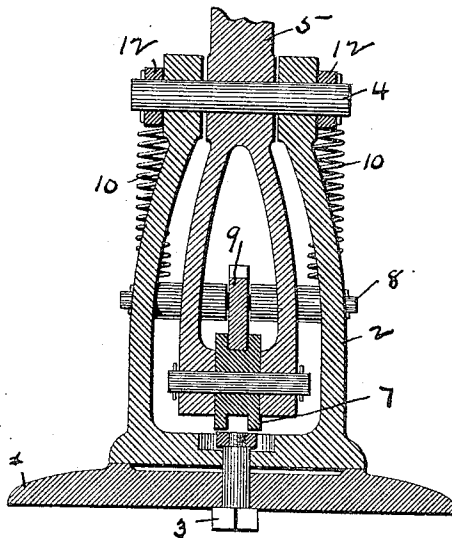


Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK N. KELSEY, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO CHARLES L. WRIGHT, OF SAME PLACE.

TROLLEY-STAND.

SPECIFICATION forming part of Letters Patent No. 529,552, dated November 20, 1894.

Application filed August 29, 1894. Serial No. 521,601. (No model.)

To all whom it may concern:

Be it known that I, FRANK N. KELSEY, a citizen of the United States, residing at New Haven, county of New Haven, and State of Connecticut, have invented a new and useful Improvement in Trolley-Stands, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to the stands used on electrically propelled cars for supporting and applying the proper amount of tension upon the trolley arm, and it has for its object to provide a stand for this purpose which will equalize the tension upon the trolley arm in such manner that the tension will remain substantially the same regardless of the angle at which the arm stands, thereby preventing undue strain upon the trolley wire at points where its level is much depressed below its normal level, and materially prolonging the effective life of the spring or springs by which the tension upon the arm is produced.

To this end, my invention consists in the trolley stand constructed and operating as hereinafter fully described and particularly pointed out in the claims.

Referring to the drawings, in which like numerals designate like parts in both views, Figure 1 is a side elevation of a trolley stand embodying my invention. Fig. 2 is a vertical section thereof.

The numeral 1 designates a suitable base adapted to be secured to the roof of a car, upon which base is erected the frame 2 composed of a suitable bottom piece, secured by a central bolt 3 or otherwise to the base 1 so as to be capable of a revolving movement thereon, and two upwardly extending arms through which, at their upper ends, is passed the stud or pin 4 which serves as the pivot of the trolley-arm socket piece 5. Said socket piece 5 is provided at one end with a split socket and clamping screw as shown to enable the end of the trolley arm 6 to be tightly clamped therein, or may have any suitable means for securing such connection, and has its opposite end forked to receive an anti-friction roll 7 which is mounted within said fork and capable of a free revolving movement. Upon a stud 8 extending between the arms of frame 2 near their lower ends is hung

a rocker lever 9, and to a pin passing through the short arm of said lever are connected the lower ends of two coil springs 10, which are connected at their upper ends to two hooks 12 pivotally connected to the frame. Adjusting screws 13 passing through tapped hubs on the frame and provided with lock-nuts as shown bear at their upper ends against said hooks 12 and serve as means for accurately adjusting the tension of said springs. The long arm of said rocker lever 9 bears upon the anti-friction roll 7 on the socket piece 5, said roll being preferably grooved as shown to receive said lever, and the under side of said long arm of the lever is formed on such a curve, extending from end to end thereof, that the tension exerted by the springs 10 upon the socket piece, as transmitted through the rocker lever, will remain constant regardless of the angle which the socket piece presents to a horizontal line.

The base 1 being suitably secured to a car roof, and the parts constituting the stand being assembled as shown in the drawings, with the end of the trolley arm clamped within the end of socket piece 5, the latter normally stands in the position shown by full lines in Fig. 1 with its forked end occupying substantially a vertical position between the arms of the frame. If now the trolley arm be depressed said socket piece will be rocked on its pivot and its roll 7 will be caused to travel along the under side of the rocker lever, tilting the latter as represented by broken lines in said Fig. 1 and expanding the springs 10, but, owing to the curvature of said under side of the rocker lever, relatively to the arc traversed by the roll 7, its pressure upon the socket piece remains substantially constant at all points in the traverse of said roll. I thus avoid any undue strain upon the trolley wire regardless of changes in its level, and materially prolong the life of the springs 10. The eccentricity of the under side of the rocker lever relatively to the path of the lower end of the socket piece can be increased or diminished within a reasonable limit without departure from the spirit of my invention, and other forms of means for reducing friction between it and the socket piece can be used.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. In a trolley stand, the combination with a pivotally supported socket piece for receiving the trolley arm, of a spring-actuated controlling device which engages a portion of said socket piece and is eccentric to the path of movement of the part which it engages, substantially as and for the purpose set forth.
2. In a trolley stand, the combination with a pivotally supported socket piece adapted to receive one end of the trolley arm, of a rocker lever engaging a portion of said socket piece and having its contacting edge eccentric to the path of movement of the part which it engages, and a spring pressing said rocker lever into engagement with said socket piece, substantially as described.
3. In a trolley stand, the combination with a suitable base adapted to be secured to a car roof, of a frame revolubly mounted upon said base, a trolley-arm socket piece pivotally mounted upon said frame and having its lower end extended beyond its pivot, an ec-

centrically disposed controlling device engaging said extended end of said socket piece, and a spring pressing said socket piece and controlling device into engagement with each other, substantially as described.

4. In a trolley stand, the combination with a base, as 1, and a frame, as 2, revolubly mounted upon said base, a socket piece, as 5, pivotally mounted upon said frame and carrying at its lower end an anti-friction roll, a rocker lever, as 9, pivotally supported on said frame and engaging the roll on said socket piece, and a spring pressing said roll and lever together, substantially as set forth.

5. In a trolley stand, the combination with the frame 2, of the socket piece 5 carrying a roll 7, rocker lever 9, hooks 12, adjusting screws 13, and springs 10, arranged and operating substantially as described.

FRANK N. KELSEY.

Witnesses:

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