(No Model.)

J. C. HOUGH.

TROLLEY STAND FOR ELECTRIC RAILWAYS.

No. 483,061. Patented Sept. 20, 1892.

Fig 1

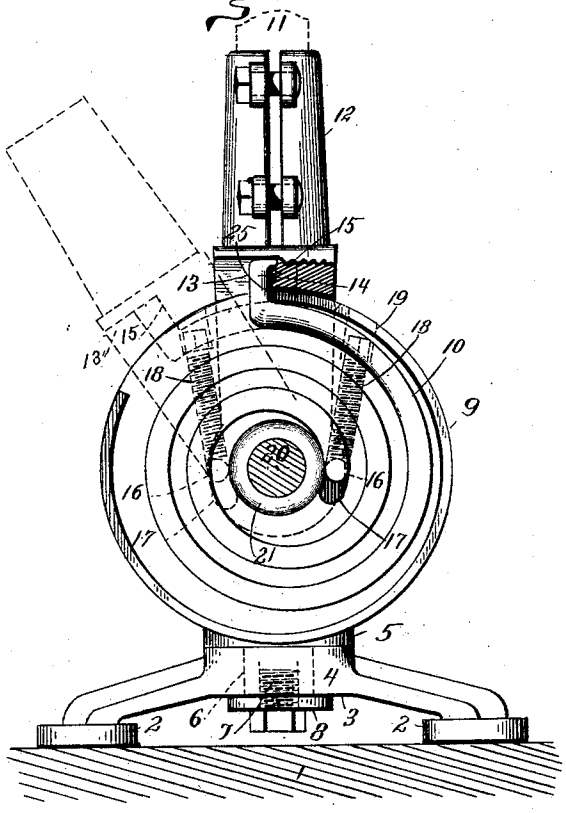


Fig 2

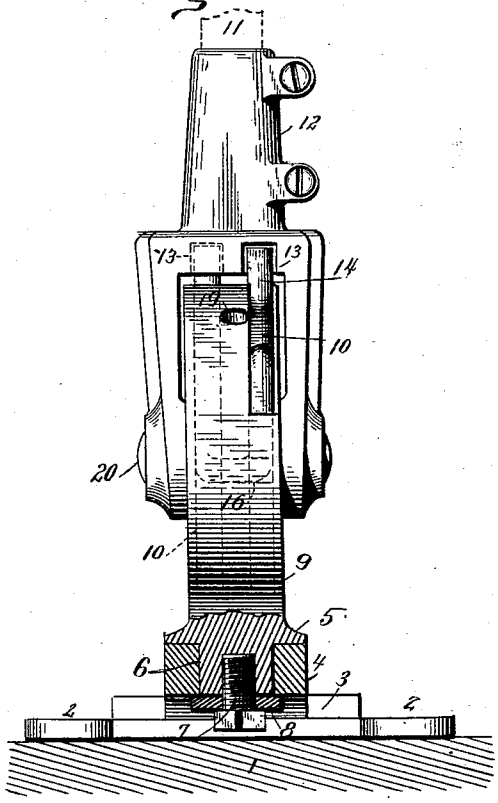
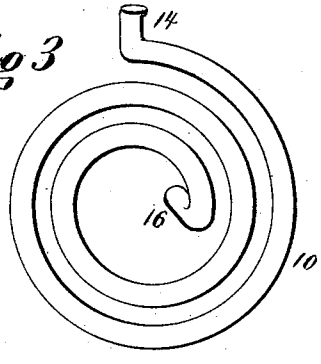


Fig 3



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TROLLEY-STAND FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 483,061, dated September 20, 1892.

Application filed December 21, 1891. Serial No. 415,726. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. HOUGH, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Stands; and I do 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 the figures of reference marked thereon, which form a part of this specification.

My invention has particular reference to that class of trolley-stands in which helical springs are employed to hold the trolley and its pole in constant contact with an overhead wire; and my object is to produce a more simple, easily adjusted, cheap, and desirable device than those heretofore in use.

To this end my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my complete invention, parts being broken away to disclose the interior; Fig. 2, an end elevation thereof; Fig. 3, an enlarged detail view of the helical spring.

The reference-numeral 1 denotes the top of an ordinary car, to which my device is applied.

The means of attaching the seat consists of a pair of lateral branching arms 2, connected by a cross-bar 3, in the center of which is located a circular bearing 4, provided with a central hole for the reception of a trunnion 6 on the bottom of a circular disk 5. The trunnion 6 is internally screw-threaded and receives a set-screw 7, which secures the disk to the seat, a washer 8 being interposed between the screw-head and the bottom of the seat. The disk is provided with a peripheral flange 9, extending beyond its opposite sides to form chambers for the reception of helical springs 10. A portion of this flange is cut away to allow the upper free end or terminus 14 of each spring to move back and forth in releasing and applying the trolley to the wire. The trolley-pole 11 fits within a fork-socket 12, and under the shoulders of each fork is a pair of transverse recesses 13, facing in opposite directions to receive the free ends 14 of the springs. The inner ends 15 of these recesses form a wall, which engages the upturned end 14 of one of the springs when the pole is drawn downward, as shown in dotted lines, Fig. 1, and allows the end of the opposite spring to pass freely out of said recess during the movement. The inner ends 16 of the springs are each bent laterally or parallel to the axis of the spring and enter elongated slots 17 upon opposite sides of the axis of the springs and pole-socket. Extending upward in a direction substantially on a line with the slots 17 are a pair of tension-screws 18, which pass through internal threaded holes 19, terminating at the periphery of the disk. The screws are given a length sufficient to bring their heads below the periphery of the disk and at the same time enable the screws to be operated from the outside thereof by means of a screw-driver. The lower ends of the screws come in contact with the laterally-projecting ends 16 of the springs and force the ends downward when it is desired to increase their tension. A reverse movement of the screws diminishes the tension of the springs. This provision allows the springs to be adjusted very nicely in relation to each other and to give the pole, and hence the trolley, the amount of tension the exigencies of the case may demand. By having the heads sunk below the periphery of the disk the pole-socket is free to move back and forth. The lower ends of the forks of said socket are pivoted on an axis 20, passing through the center of the disk. Embossments 21 are cast integral with the disk and form a spool or core for the spring. When the pole is drawn over to the right of a vertical position, the end wall 15 of the slot 13 in the pole-socket will engage the upturned free end of the spring and carry it along with the socket against the tension of the spring. The opposite spring remains inactive by engaging the end 25 of the flange 9, and the end of the spring passes out of the open end of the recess in the socket. When the pole is moved from right to left, the spring which remained inactive is now brought into play, while the active spring remains still. This alternate operation being old and well

known to the art does not need further description. It will be seen that the spring which is not in action has its opposite ends in engagement with the end of the flange and tension-screw. Among the advantages of this arrangement may be mentioned those of cheapness, simplicity, durability, and ease with which the tension-screws can be adjusted.

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

1. In a trolley-stand, a pivoted disk provided with a pair of helical springs of like form and having their inner ends projecting into slots in the disk, in combination with tension-regulating screws entering the slots and in engagement with said ends and a forked and recessed pole-socket in engagement with the outer ends of said springs, in the manner and for the purpose specified.

2. In combination with a pivoted disk and pole-socket, a pair of helical springs located on opposite sides of the disk and having their inner ends adjustably secured therein and their outer free ends arranged to alternately engage the pole-socket when the pole is inclined, whereby one spring remains inactive while the other is in operation, in the manner and for the purpose substantially as described.

3. In a trolley-pole stand, a disk having helical springs upon its opposite sides, in combination with a trolley-pole socket forked to pass astride the disk and springs and adapted to alternately engage the free ends of the springs, in the manner and for the purpose substantially as described.

4. In a trolley-pole stand, a disk having springs upon its opposite sides, in combination with a forked trolley-pole socket pivoted to the disk and passing astride the springs and disk, in the manner and for the purpose substantially as described.

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

JOHN C. HOUGH.

Witnesses:

JOSEPH P. MESSNER,

LUCIUS O. FRAZIER.