No. 672,335. Patented Apr. 16, 1901.

W. P. SMITH.

TROLLEY POLE ATTACHMENT.

(Application filed Feb. 20, 1901.)

(No Model.)

Fig. 1.

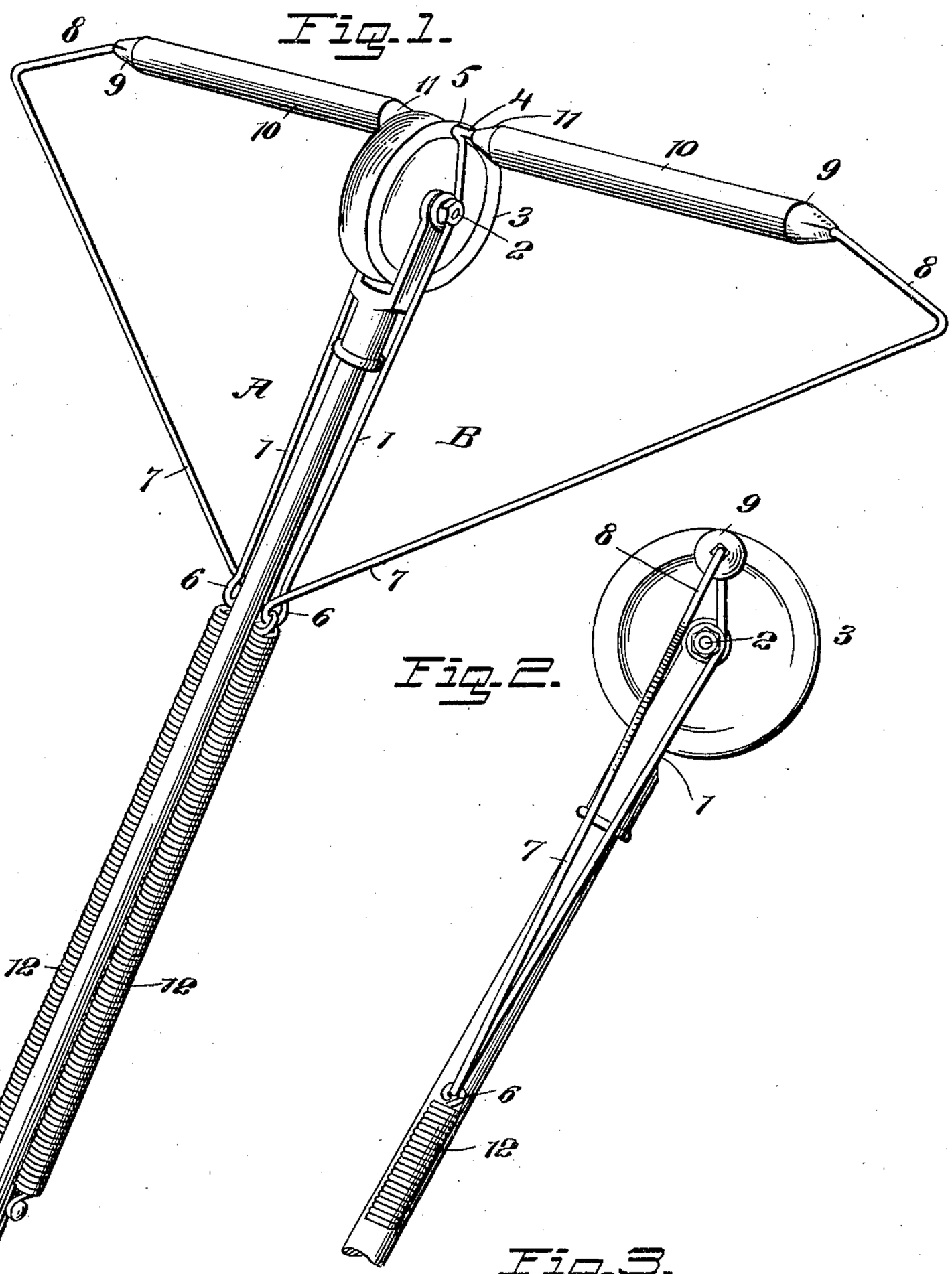
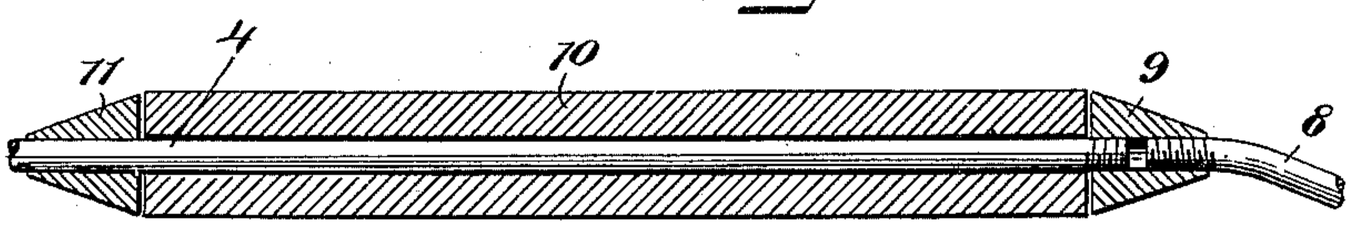


Fig. 2.

Fig. 3.



WITNESSES:

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WILLARD P. SMITH, OF BROOKLYN, NEW YORK.

TROLLEY-POLE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 672,335, dated April 16, 1901.

Application filed February 20, 1901. Serial No. 48,106. (No model.)

To all whom it may concern:

Be it known that I, WILLARD P. SMITH, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Trolley-Pole Attachment, of which the following is a full, clear, and exact description.

This invention relates to attachments for electric-car trolleys; and the object is to provide a simple device that may be readily applied to an ordinary trolley and pole and designed to prevent the cutting out of the current should the trolley jump off the wire, as often happens, especially in turning corners or curves, thus not only stopping the supply to the motor, but cutting out the lamp-current.

I will describe a trolley-pole attachment embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a trolley-pole attachment embodying my invention. Fig. 2 is a side view thereof, and Fig. 3 is a sectional view of a portion of the device.

The invention comprises two guards A B, each consisting of a single length of bar-iron or wire forming a portion 1, designed to pass upward along the pole and mounted to swing on the pivot-bolt 2 of the trolleys. A portion 4 extends horizontally outward from the trolley, and at the junction of the portions 1 and 4 the metal is turned inward, as at 5, to engage closely against the outer surface of the trolley or sufficiently close to prevent the wire slipping between the guard and the trolley. The lower end of the portion 1 of the guard is turned to form an eye 6, and from this eye 6 a spring 7 extends at an outward and upward incline, and thence is turned inward at an upward and inward incline, as indicated at 8. The end of this portion 8 is screw-threaded, while the outer end of the portion 4 is also screw-threaded. These threads are made right and left, so as to be engaged by the right and left threads of a fastening-nut 9, which is tapered from its inner end outward, as clearly indicated in the drawings.

Mounted to rotate on the portion 4 is a roller 10, of copper or other suitable conductor, and this is held from longitudinal movement by abutting at its inner end against a tapered collar 11, attached to said portion 4, and abutting at its outer end against the inner end of the tapered nut 9.

From the eyes 6 springs 12 extend downward and connect at their lower ends with the trolley-pole. These springs are designed to permit a yielding motion of the guards should the trolley run off and the wire be moved onto a guard. The top surfaces of the rollers 10 should be substantially on a plane with the periphery of the trolley.

In operation it will be seen that should the wire become detached from the trolley in rounding a curve or the like the wire will engage with a roller 10, and as this roller, and, in fact, the whole portion of the guard, is in electrical connection with the trolley-pole the current will not be cut off. Should the pole be moved sufficiently far to one side to disengage the wire from the roller and said wire should pass upon the part 8, it is obvious that this part 8, being inclined, will readily guide the wire back to the roller and thence back to the trolley.

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

1. A trolley-pole attachment, comprising guards arranged at opposite sides of the trolley, each guard having a portion extended upward along the trolley-pole and mounted to swing on the trolley-bolt, a horizontal portion, an inclined brace connection between this horizontal portion and the lower end of the first-named portion, and a spring connection between the lower end of the guard and the trolley-pole, substantially as specified.

2. A trolley-pole attachment, comprising guards arranged at opposite sides of the trolley, each guard consisting of a single length of metal having a portion for extending upward along the trolley-pole and mounted to swing on the trolley-bolt, a horizontal portion, a brace connection between the outer end of said horizontal portion and the lower end of the first-named portion, and a roller mounted on the horizontal portion, substantially as specified.

3. A trolley-pole attachment, comprising guards arranged at opposite sides of the trolley, each guard consisting of a single length of metal having a portion extending upward along the pole and mounted to swing on the trolley-bolt, a portion extended horizontally from the first-named portion, the metal at the junction of said horizontal portion and the first-named portion being turned inward, a collar at the inner end of said horizontal portion, a brace extended from the lower end of the first-named portion at an incline and then turned to an upward and inward incline, a right and left threaded nut for engaging with the adjacent ends of the rod or metal yoke, said nut being tapered, a roller arranged between said nut and the collar, and a spring extended from the lower end of the guard to a connection with the pole, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLARD P. SMITH.

Witnesses:
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C. R. FERGUSON,