(No Model.)

L. H. McNETT.

TROLLEY GUARD.

No. 594,807. Patented Nov. 30, 1897.

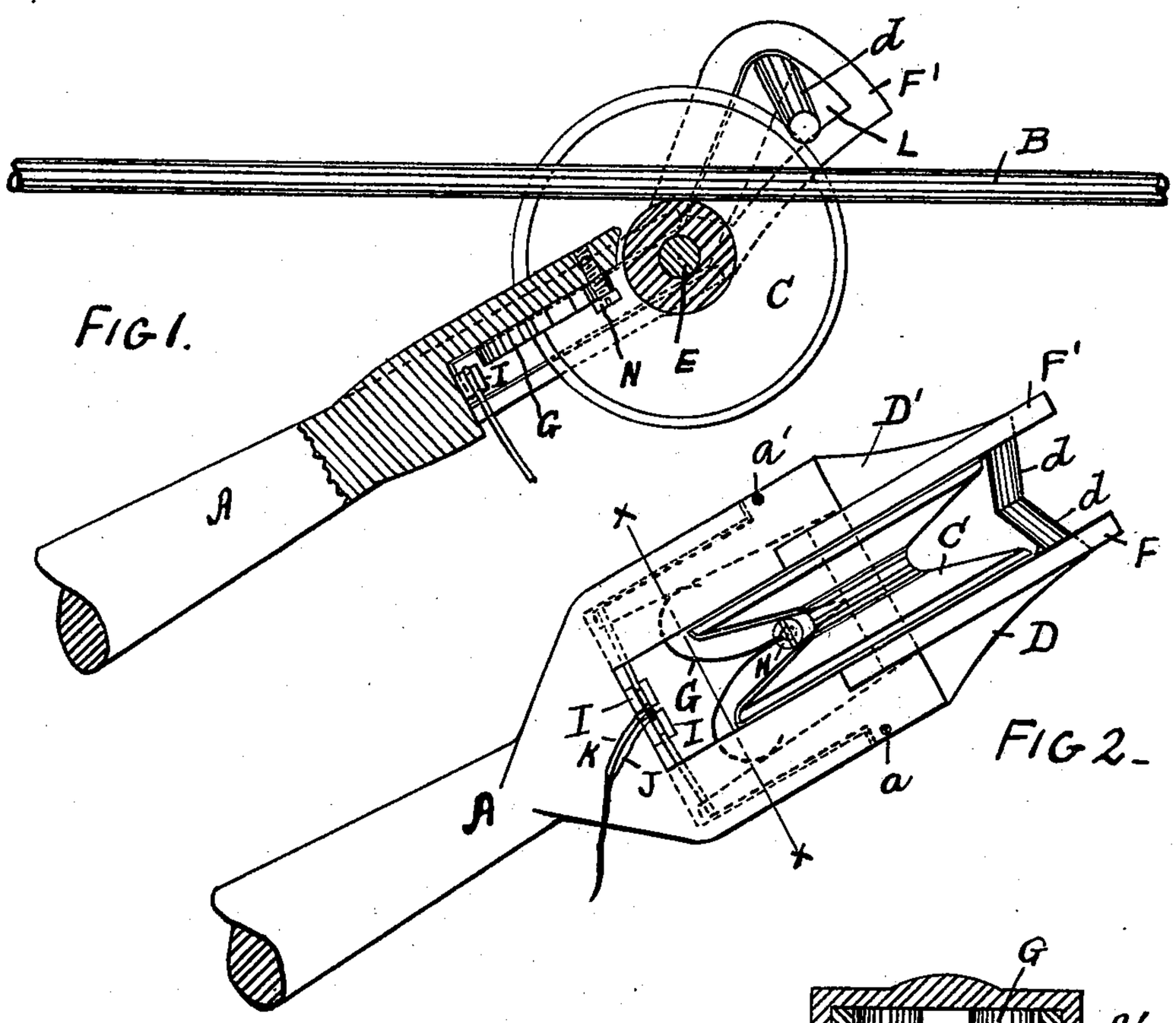

FIG 1.

FIG 2.

FIG 3.

FIG 4.

Witnesses:
Charles Marien.
W. C. Proctor.

Inventor:
LYMAN H. McNETT.
Thurman and Silvius
Attorneys

UNITED STATES PATENT OFFICE.

LYMAN H. MCNETT, OF ELDORA, IOWA.

TROLLEY-GUARD.

SPECIFICATION forming part of Letters Patent No. 594,807, dated November 30, 1897.

Application filed July 25, 1896. Serial No. 600,478. (No model.)

To all whom it may concern:

Be it known that I, LYMAN H. MCNETT, a citizen of the United States, residing at Eldora, in the county of Hardin and State of Iowa, have invented certain new and useful Improvements in Trolley-Guards; 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of trolleys which are used in connection with electric cars and an overhead circuit-wire; and it consists of a novel combination and arrangement of mechanical elements whereby a trolley is prevented from becoming accidentally disconnected from the wire, yet may be instantly released from contact when desired, as will be fully described hereinafter.

In the operation of trolley-lines much difficulty is experienced on account of the trolley-wheel jumping off the wire, thus preventing the further movement of a car until contact is again established. Such accidents may occur at a point where it is dangerous to stop, as on a railway-crossing. Besides, considerable damage may be caused by the car going some distance by momentum when a trolley is off before the damage to it or a wire-hanger can be avoided. My object is to obviate these evils and provide a reliable and inexpensive device by which these difficulties are eliminated.

My invention is of few parts, cheaply manufactured, and is durable and economical in use.

Referring to the drawings, Figure 1 represents a side view of a portion of a trolley pole and wheel in connection with an electric wire in which a portion is shown in longitudinal half-section. Fig. 2 is a view of lower side, showing the guards closed. Fig. 3 is a cross-section on the line *x x* of Fig. 2; and Fig. 4 is a view of lower side, showing the guards open.

In the drawings, A represents the upper portion of a trolley pole or mast having at its end a bifurcated head or fork A′ A′, between which is suitably journaled a grooved trolley-wheel C, running on a wire B. Extending from the forks are side guard-arms F F′, having suitable openings L, through which the top guard-fingers operate and are preferably integral with the fork, but may be made detachable.

D D′ are right and left dogs or levers pivoted in recesses in the fork ends by means of a rivet or pivotal pin *a* and *a′*, respectively. The outer ends *d* of the levers D D′ are preferably made cylindrical and are bent at an acute angle inward toward each other and slightly downward, the points meeting fairly on a line central with the grooved wheel. When mounted and closed, these fingers present the form of an extended V, as viewed at the end of the pole, the fingers, viewed transversely, standing approximately vertical to the center line of the pole. The opposite ends of the levers are movable in a recess M, near the crown of the fork, and are held normally apart by means of a suitable spring G, attached to a covering web of the fork by a screw N. In the crown of the fork are two small grooved pulleys revolubly mounted and suitably supported, so that their peripheries are in contact with each other.

A cord as commonly used on trolley-poles, but having the end divided into two parts J K, passes from below between the guide pulleys or rollers I, lying in their grooves and separate. One part, passing over the top of one roller, is connected to the rear end of the lever D, while the other part is likewise connected to the lever D′.

It will be observed that the guard-fingers *d* are normally held together or closed by means of the spring and that the points set at such an angle when in use that the hangers or supports for the wire must make contact with them forward of the apex, which readily forces them open in passing. The apex being toward the wire cannot be forced open by contact with it when the pole bounds and therefore prevents the wheel from dropping far enough to leave the wire. Drawing the cord downward automatically opens the guard-fingers and draws the wheel from the wire, and releasing the tension on the cord permits the fingers to again close.

It is obvious that my device requires only

the same simple manipulation as does the common trolley-pole.

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

1. A trolley comprising in combination a pole or mast having at its upper end a bifurcated head or fork, part of which is webbed at top near crown; an electric conducting-wire; a grooved wheel journaled between the arms of said fork and running in contact with said wire; a pair of side guards each extending and continuing from said fork ends outward and upward above said wire and having an aperture through each transversely; a pair of levers pivoted in recesses in said head, the outer end of said levers operating in said apertures and terminating in fingers turned angularly toward each other the ends meeting centrally above said wire to form a top guard which, when closed, together with the wheel and side guards, incloses said wire in section, said levers having the opposite ends connected each to a cord running over guide-rollers and downward to afford means for manipulating said levers and top guard-fingers, and suitable springs supported to normally press said finger ends together, substantially as shown and for the purpose described.

2. In a trolley, the combination of a bifurcated head, a grooved wheel suitably journaled therein, a pair of guard-arms extending from the arms of said head upward above the flanges of said wheel, a pair of levers pivoted in said head having inwardly-turned guard-fingers at their outer ends, said fingers meeting centrally above a line drawn over the bottom of the groove in said wheel, suitable springs to automatically press said fingers normally together, and means substantially as described by which said fingers may be opened automatically when wheel is being disengaged from a circuit-wire, substantially as shown, for the purposes set forth.

3. The herein-described trolley, comprising in combination, the bifurcated head, a grooved wheel journaled therein, running in contact with a circuit-wire, the side guards having apertures therethrough, the levers pivoted in said head having the turned guard-fingers, operating in said apertures, the spring normally pressing said fingers together, the guide-pulleys and cords running over same and connecting the inner ends of said levers, substantially as shown and described.

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

LYMAN H. McNETT.

Witnesses:
STEPHEN WHITIER,
M. PEYTON.