

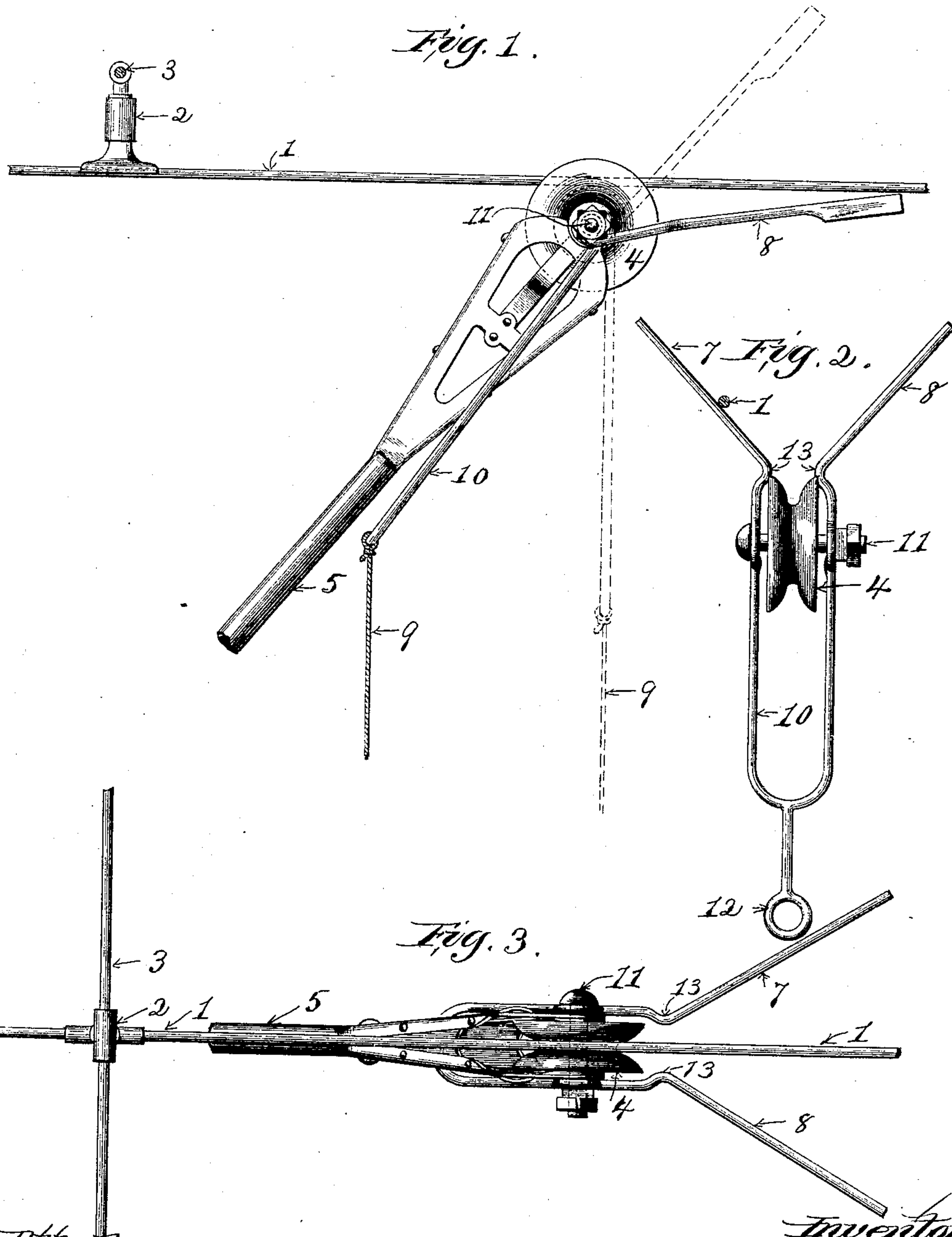
(No Model.)

C. FORTIN.

GUIDE FOR REPLACING ELECTRIC TROLLEYS.

No. 480,766.

Patented Aug. 16, 1892.



Witness:
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UNITED STATES PATENT OFFICE.

CHARLES FORTIN, OF FLORISANT, MISSOURI.

GUIDE FOR REPLACING ELECTRIC TROLLEYS.

SPECIFICATION forming part of Letters Patent No. 480,766, dated August 16, 1892.

Application filed April 11, 1892. Serial No. 428,607. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FORTIN, a citizen of the United States, residing at Florissant, in the county of St. Louis and State of Missouri, have invented a certain new and useful Guide for Replacing Trolleys, of which the following is a full, clear, and exact description.

My invention relates to means and devices to aid in replacing the trolley-wheel on the overhead trolley-wire in electric-tramway service.

It has for its object the provision of an inexpensive device, easily applied to the already-existing trolley-poles, and practically operative under the present systems of overhead wiring, as at crossings, &c.

It consists in the hereinafter-described device as attachable to the trolley-pole, in the method of securing it to the trolley-pole, and in the consequent features of improvement in the method of operation.

In the accompanying drawings, in which like numbers of reference denote like parts in the several figures, Figure 1 is a side elevation of the upper end of a trolley-pole with my improved guide attached. Fig. 2 is a view in line with the trolley-wire, the pole not being shown; and Fig. 3 is a plan view of what is shown in Fig. 1.

1 is the trolley-wire, which is supported over the tracks by the hangers 2, which are secured to the cross-street supporting-wires 3. The trolley-wheel 4, which is revolvably secured in the end of the trolley-pole 5, is normally held up against the trolley-wire 1 in approximately the relatively-inclined position shown in Fig. 1 by the spring-tension applied to the foot of the pivoted trolley-pole 5, as in ordinary practice.

My replacing device consists, as an extension of the trolley-pole 5, in the spreader-arms 7 and 8, which, as shown in Figs. 2 and 3, extend to a convenient distance beyond the trolley-wheel and in an inclined direction to a convenient distance laterally to either side of the same. This, as shown in Fig. 2, offers a comparatively wide V-shaped opening, with which it is comparatively easy to strike the overhead trolley-wire 1, when the pole is depressed by the trolley-rope 9 and released to catch the wire. Simply attaching the arms 7

and 8 rigidly to the trolley-pole is altogether feasible when the trolley-wire 1 is a straight continuous wire, and the cross supporting-wires 3 are somewhat removed vertically from the same; but, in general, there are cross trolley-wires and turn-out fixtures which would strike and interfere with the arms if retained in the vertical position, as described. For this reason I form these arms as the extensions of a bifurcated lever device, (illustrated in Figs. 1 and 2,) and pivotally secure the same at some convenient point near the upper end of the trolley-pole, adapting the arms 7 and 8 to be depressed to a trailing position below the level of the trolley-wire 1 (see Fig. 1) and obstructions at the same level. For this purpose the two parts, 7, 8, and 10 are bent so as to make an angle at the pivot-point relative to the line of the trolley-pole.

While it is evident that the point of attachment of the guide 10 7 8 to the trolley-pole is a matter depending on circumstances, I preferably make this point of attachment at the axis of the trolley-wheel 4, merely replacing the ordinary axle-bolt 11 by one somewhat longer, which, in this instance, is passed through perforations made therefor in the two forks of the guide-piece at a proper point in their length. The guide-piece 10 7 8 being loosely pivoted on the bolt 11, and the two parts—the closed end 10 and the arms 7 and 8—being counterbalanced, or the arms 7 and 8, being somewhat the heavier, will seek to assume a horizontal position or as nearly so as the inclination of the trolley-pole 5 will permit, the lower closed end 10 striking against the same, as shown in Fig. 1. This normal inclination of the pole 5 at once in any given case decides the angular deviation of the arms 7 and 8 beyond the pivot-bearing 11 from the line of the closed end 10—that is, to bring the trailing ends of the arms 7 and 8 to a level low enough, when the closed end 10 is against the trolley-pole, as indicated in Fig. 1, to pass any likely obstruction. With this arrangement the trolley-rope 9 is fastened by any convenient means, as the eye 12, to the lower end of the closed depending member 10, so that whenever the rope 9 is taken hold of to depress the pole 5 it will raise the projecting arms 7 and 8 to a more vertical position, as

seen in dotted lines in Fig. 1. When the pole is allowed to rise to catch the wire 1, the wire 1 will be caught in the V-shaped opening between the arms 7 and 8, as indicated in Fig. 2, and be directed to the trolley-wheel 4.

In order that the wire 1 in sliding down either of the arms 7 or 8 will not catch on the outer circumferential edges of the trolley-wheel, the arms 7 and 8 are formed with inwardly-extending offsets 13 just beyond the diametrical dimensions of the trolley-wheel, so that when the wire 1 slides therefrom it will be sure to enter the circumferential groove formed in the trolley-wheel therefor.

It is evident that without departing materially from the salient features of my invention I might place the fulcrum-point of my guide-piece somewhat lower down the pole when it is required to provide for greater clearance between the arms 7 and 8 and the trolley-wire 1 when the arms are in the depressed position shown in Fig. 1, at the same time making the arms 7 and 8 longer.

I claim—

1. In combination with a trolley-pole and trolley secured in the end of same, the herein-described replacing device pivotally secured to the trolley-pole, consisting in bifurcated

lever-arm, the lower depending member of which is closed and provided with means of attachment for a rope to operate the same, and the upwardly-extending members of which are inclined outwardly, forming a V-shaped opening between the same at right angles to the line of the trolley-wire, substantially as described, and for the purposes specified.

2. The herein-described device for replacing trolleys, consisting in the combination, with the trolley-pole 5, of a bifurcated lever-arm composed of the inclined arms 7 and 8 and loop 10, by which the arms 7 and 8 are made integral with each other and are operated together, the said bifurcated lever-arm being pivotally secured to the trolley-pole 5 by the axial bolt 11 of the trolley 4, and the operating-rope 9, combined and operating substantially in the manner and for the purposes specified.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 5th day of April, 1892.

CHARLES FORTIN.

Witnesses:

W. M. BYRNE,
H. K. WAGNER.