

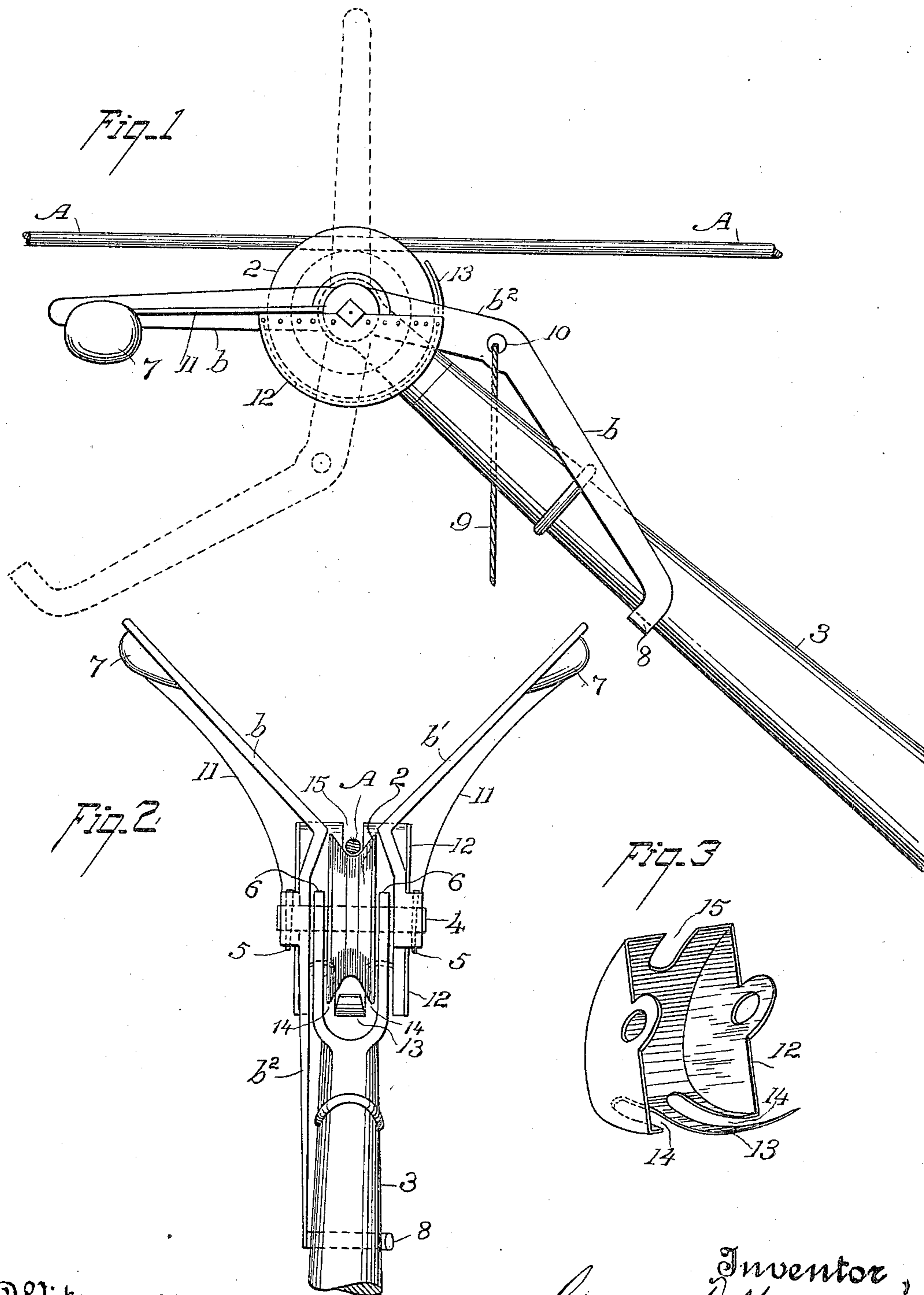
No. 680,919.

Patented Aug. 20, 1901.

G. F. HEUSNER.
TROLLEY GUIDE.

(Application filed Dec. 13, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

GEORGE F. HEUSNER, OF PORTLAND, OREGON.

TROLLEY-GUIDE.

SPECIFICATION forming part of Letters Patent No. 680,919, dated August 20, 1901.

Application filed December 13, 1900. Serial No. 39,661. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. HEUSNER, a citizen of the United States, residing at Portland, county of Multnomah, State of Oregon, have invented an Improvement in Trolley-Guides; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in guides for trolley-wheels upon street-cars and the like and is intended to assist in replacing the wheel upon the wire.

It consists, essentially, of two outwardly-flared arms attached to the trolley-wheel shaft, weights at the ends of these arms by which the arms are made ordinarily to rest below the line of the wire, an extension by which the movement of the outer ends of the arms below the wire is limited and a means of attaching the trolley-cord to this extension, whereby the arms are automatically thrown into vertical position, and of details more fully explained in the following specification and accompanying drawings.

Figure 1 is a side view of the trolley. Fig. 2 is an end view of the same. Fig. 3 is a detail of the shield.

The object of my invention is to provide a simple means by which the trolley can rapidly be replaced upon the wire. The greatest inconvenience to both passengers and operators by the ordinary trolley frequently flying off the wire is at night. The car is left in darkness, and it is sometimes several seconds before the operator is enabled to find the wire.

Having reference to the accompanying drawings, A represents the trolley-wire.

2 is the trolley wheel or sheave upon the pole 3.

4 is the axle of the sheave.

The guide composed of two outwardly-flared arms b and b' is secured to the axle 4 by the pins 5. These arms are shaped as shown, having a broad base or web and with their outer edges, as 11, tapering from the axle to the ends of the arms. On the ends of these arms are weights, as 7. These weights are preferably pear-shaped. The arm b' terminates at the axle, but the arm b has an extension b^2 . This extension b^2 is so bent in relation to the arm b and the trolley-pole that

when the pole is in position against the wire the arms b and b' will rest approximately parallel with and below the wire. The end of b^2 is adapted, as at 8, to bear against the under side of the trolley-pole and prevent the arms b and b' being deflected beyond a certain point. The weights 7, above mentioned, remove the center of gravity to a point intermediate of the outer ends of the arms and the axle on which they are fulcrumed, and thus the arms always tend to lie in a position parallel with and below the wire and out of the way of span-wires or the wires of crossing lines. It is necessary in devices of this character to guard effectually against all angles or projections that are likely to catch upon the trolley or on any cross-wires, &c., when endeavoring to replace the sheave upon the trolley. For this reason I preferably make the weights 7 pear-shaped and the arms wing-shaped, and for the same reason I provide a guard or shield 12 to protect the lower part of the arms and inclose the under part of the sheave. This shield has a curved tongue 13, which extends between the forks of the harp, and a cut-out portion 14 allows for the pole when the arms rest in a position parallel with the trolley. The guard is slotted at 15 to admit the trolley when the arms are raised perpendicularly above the trolley. When the arms are in this position, the end of the tongue, still projecting into the harp, offers a sufficient guard against any wire or other obstacle and prevents its coming in contact with the sheave.

A trolley-cord 9 is attached to the guide at 10 in b^2 . Thus the mere act of pulling down on the cord throws the arms b and b' immediately into a vertical position, and the space between their diverging ends offers a wide entrance for the wire to the sheave. The moment the weight on the cord is relieved the arms rest again below the line of the wire and out of the way.

In many instances when the trolley jumps off the wire it only flies a few inches to one side. In such a case the projection of the arms would prevent the loss of the trolley altogether, and as the arms are likewise conductors of electricity the lights would not be extinguished, and a slight jerk on the rope would cause the guides to stand up and the

wire to slide down again into position on the trolley-sheave.

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

1. A trolley-guide consisting of two arms fixedly attached to the ends of the trolley-wheel axle, said arms outwardly divergent from the periphery of the wheel, a guard portion on each of these arms extending from the axle to the ends of the arms, an angular extension to one of these arms, whereby the downward swing of the outer end of the arms is limited, and whereby the arms are raised into a vertical position, and a guard extending beneath these arms and inclosing the under part of the trolley-wheel.

2. The combination with a trolley-pole, of a trolley-guide consisting of outwardly-divergent arms upon the axle of the trolley-wheel, one of said arms having an extension adapted to bear against the under side of the trolley-pole to prevent deflection of the arms, and a trolley-cord attached to said extension at a point between the axle and the lower end of the extension.

3. The combination with a trolley-pole, of a trolley-guide consisting of two outwardly-divergent arms upon the ends of the trolley-wheel axle, one of said arms extended at one side of the axle and adapted to engage the trolley-pole, weights upon the outer ends of the arms, upon the opposite side of the axle, and a trolley-cord connected with said exten-

sion at a point between the axle and the lower end of the extension.

4. The combination with a trolley-pole carrying a sheave of a guide consisting of two outwardly-divergent arms secured upon the outer ends of the axle of the sheave, one of said arms having an extension in the line of the pole, the lower end of this extension adapted to bear against the under side of the pole, a point of attachment for the trolley-cord intermediate of the axle and the lower end of the extension, and weights upon the outer ends of the arms whereby the arms are ordinarily kept below the line of the wire.

5. A trolley-guide consisting of two arms fixedly attached to the ends of the trolley-wheel axle, said arms outwardly divergent from the periphery of the wheel, weights upon the outer ends of these arms, an extension to one of these arms, the lower end of this extension bent approximately parallel to the line of the axle, a point of attachment for the trolley-cord intermediate of the axle and the end of this extension and a shield upon the arms, inclosing the under part of the wheel and having a tongue portion extending between the forks of the harp.

In witness whereof I have hereunto set my hand.

GEORGE F. HEUSNER.

Witnesses:

CHAS. H. CAREY,
L. S. ROGERS.