

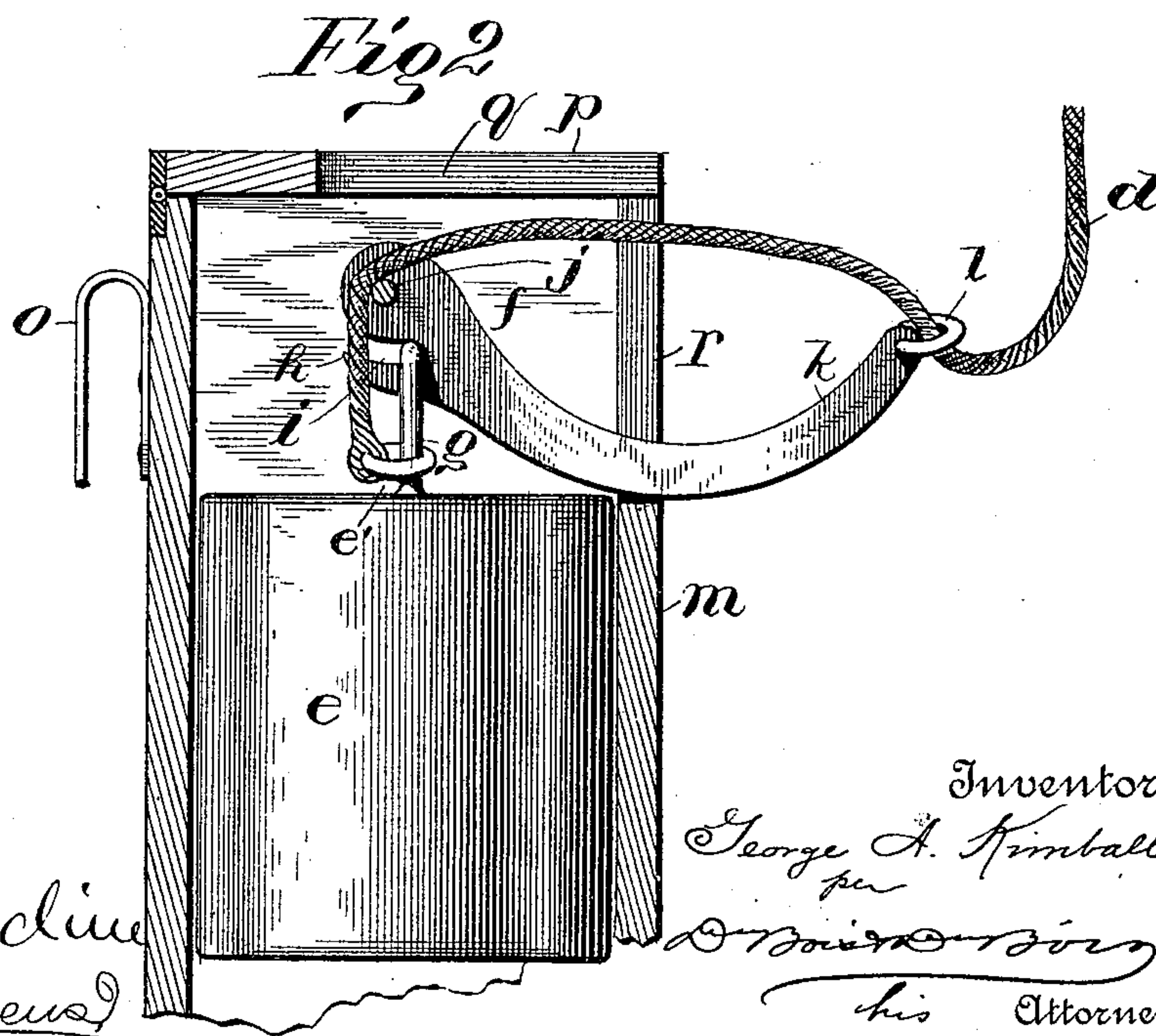
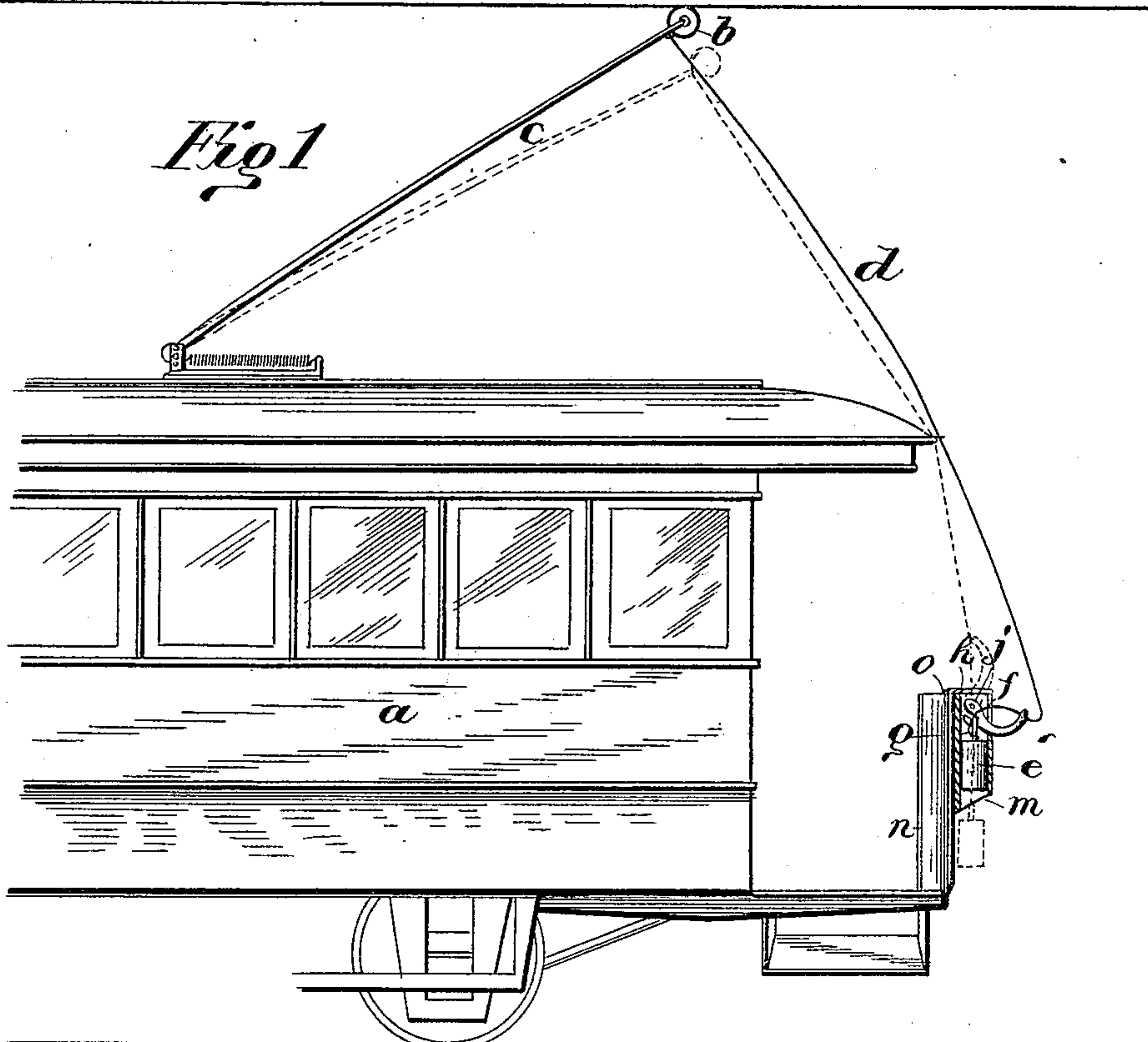
(No Model.)

G. A. KIMBALL.

AUTOMATIC TROLLEY DISCONNECTOR.

No. 481,956.

Patented Sept. 6, 1892.



Witnesses
O. C. Burdine
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Inventor
George A. Kimball
per
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UNITED STATES PATENT OFFICE.

GEORGE A. KIMBALL, OF SEATTLE, WASHINGTON.

AUTOMATIC TROLLEY-DISCONNECTOR.

SPECIFICATION forming part of Letters Patent No. 481,956, dated September 6, 1892.

Application filed November 21, 1891. Serial No. 412,678. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. KIMBALL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Automatic Trolley-Disconnectors; 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 a safety appliance for electric trolleys, and especially those used for electric street-cars.

Great trouble and annoyance have been experienced by reason of the trolley jumping the wire on which it runs and scraping and sliding along it, thereby wearing the trolley-pole and wire and also continuing the electrical connection and action of the motor when it should be stopped. After the trolley has flown up it often becomes troublesome and difficult to restore to its place on the wire. These difficulties my invention is calculated to overcome and at the same time provide means which will hold the trolley below and out of connection with the wire when it is desired to keep the trolley disconnected.

Aiming at these advantages, my invention comprehends the automatic mechanism and peculiar features more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents my device as applied to the dash-board of an ordinary electric street-car; Fig. 2, an enlarged view of the mechanism employed.

The reference-letter *a* represents a car provided with an ordinary trolley *b* on the free end of a spring-pole *c*, from which hangs the usual cord *d* for disconnecting and operating the pole. The lower end of this cord is fastened to a weight *e*, which is removably suspended from a trigger *f* by means of a bail *g*, and has sufficient gravity to overcome the upward pull of the trolley-pole. This bail takes over a lip *h*, formed by a downwardly-sloping open slot *i* located in the trigger below its piv-

otal point *j*, and in such juxtaposition as to prevent the weight from prematurely dropping. From the pivotal point *j* the trigger extends downward thence outward and upward to form a handle portion *k*, the end of which is provided with a ring *l*, through which the cord *d* extends. The end of the cord is attached to the weight *e* by means of a ring *e'*, which is in turn secured to the weight. The trigger and weight are inclosed within a casing or box *m* attachable to the dash-board *n* by a hook *o*. The top of the box is provided with a cover *p*, in which is formed an open slot *q*, which is a continuation of an open slot *r* in the vertical side of the box. The free arm of the trigger rests in the bottom of the slot *r*, while the weight hangs on the trigger when the trap is set. The free end of the trigger projects through and plays within this vertical slot *r* during the operation of the trigger, and the cord which actuates the trigger passes through the horizontal slot *q*.

In using this mechanism the trolley is first placed in proper connection on the overhead wire, then the weight is hung on the trigger and its gravity will pull the free end of the trigger down on the bottom of the vertical slot *r*, which gives the slot in the trigger sufficient slope to hold the bail in place against any possibility of jarring out while the car is in transit. When thus adjusted, the automatic disconnecter or pull is set in readiness to operate. Now should the trolley jump the wire from any cause whatever the spring-arm will fly up a short distance and jerk the cord, which in turn lifts the free arm of the trigger and inclines the open slot in such a way as to dump or drop the weight, which descends and draws the trolley down and out of contact with the wire, so that all electrical connection is at once automatically cut off from the motor, as shown in dotted lines in Fig. 1, and the injury heretofore mentioned is obviated.

My device gives an important advantage in handling the car by enabling the operator to drop the weight at pleasure and thereby hold the trolley clear of the wire when desired.

It is evident that my invention could be varied in many slight ways that might sug-

gest themselves to a skilled mechanic. Therefore I do not limit myself to the exact construction herein shown, but consider myself entitled to all such variations as come within
5 the spirit and scope of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic trolley-disconnector, the combination of the trolley-pole, a cord, a piv-
10 oted trigger actuated by the cord, and a weight normally hung within a slot formed in the short arm of the trigger, substantially as described.

2. In an automatic trolley-disconnector, the
15 combination of a trolley-pole, a cord attached thereto, and a pivoted trigger adapted to trip a weight which is normally hung within a slot

formed in the short arm of the trigger, as and for the purpose set forth.

3. In an automatic trolley-disconnector, the
20 combination of an open-bottom box secured to the car, a trigger pivoted in the box and having its long arm projecting outside thereof, a downwardly-extending slot formed in the trigger, a weight normally hung within said
25 slot, and a cord connected to the weight, trolley, and trigger, substantially as described.

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

GEORGE A. KIMBALL.

Witnesses:

GEO. H. KING,
A. I. FONDA.