

No. 787,033.

PATENTED APR. 11, 1905.

B. A. GRASBERGER.

TROLLEY STAND.

APPLICATION FILED JAN. 23, 1904.

FIG. 12

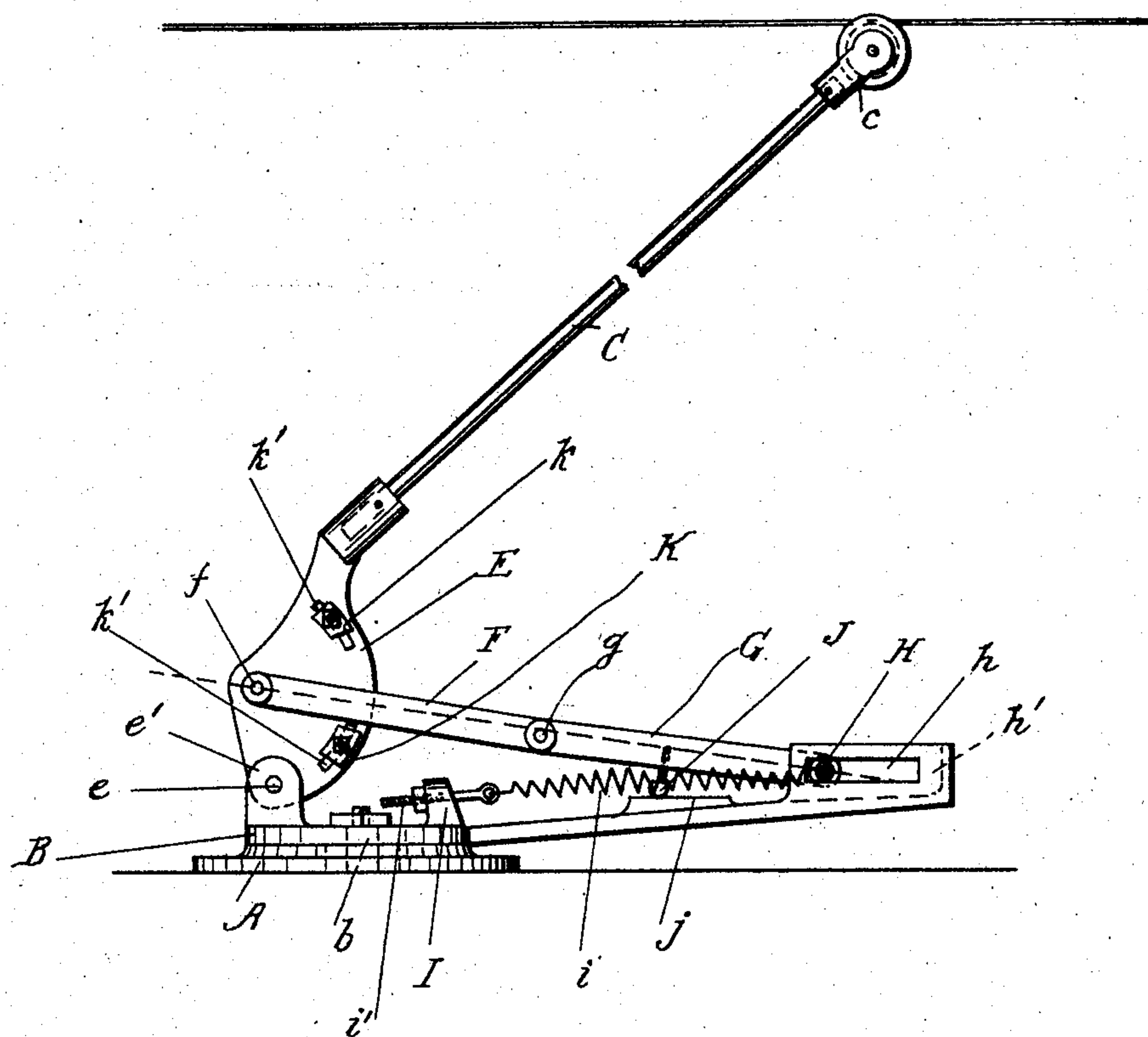
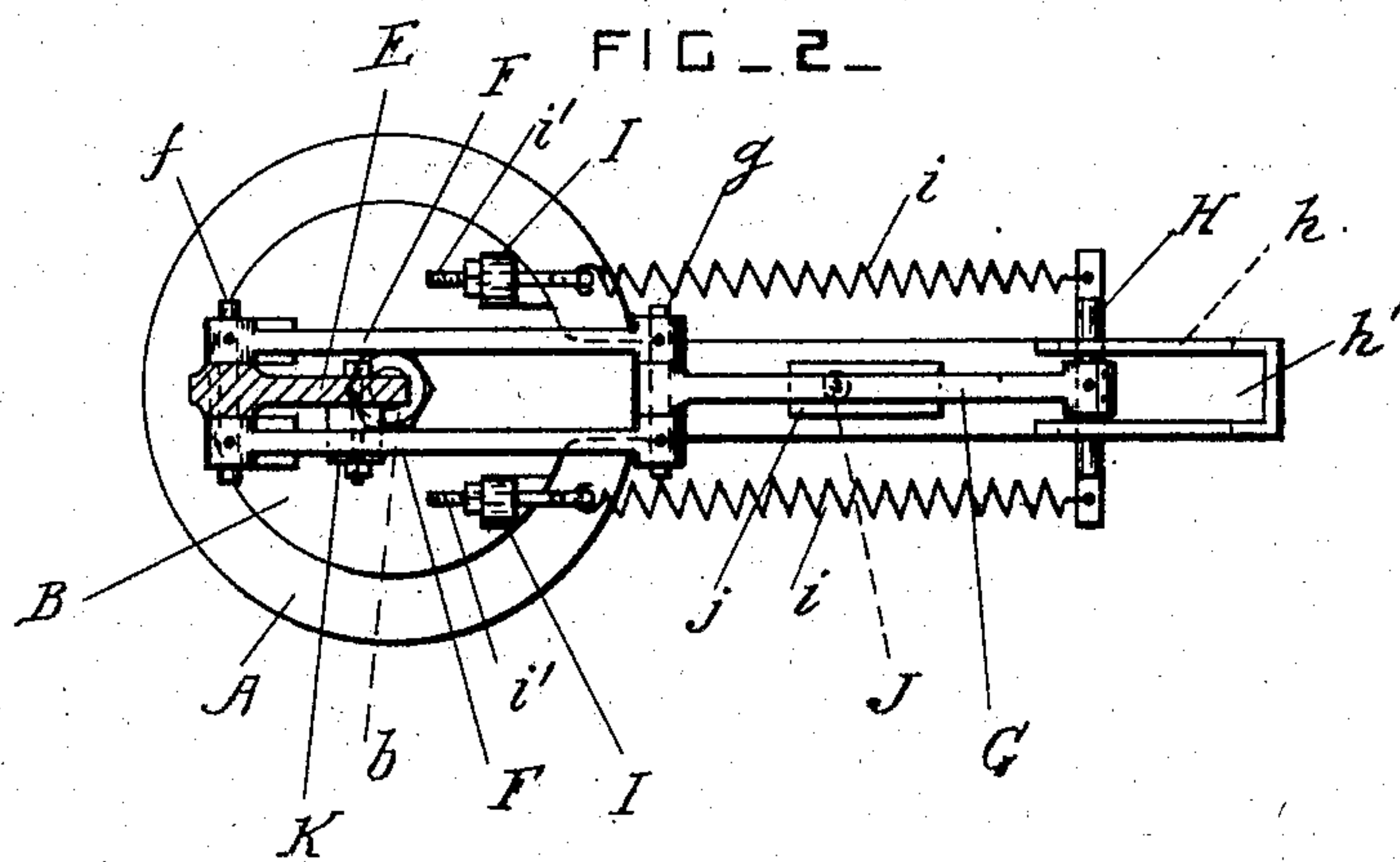


FIG. 2.



WITNESSES:

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J. Spring Pool
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INVENTOR

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BONIFACE A. GRASBERGER, OF RICHMOND, VIRGINIA.

TROLLEY-STAND.

SPECIFICATION forming part of Letters Patent No. 787,033, dated April 11, 1905.

Application filed January 23, 1904. Serial No. 190,301.

To all whom it may concern:

Be it known that I, BONIFACE A. GRASBERGER, a citizen of the United States, residing in the city of Richmond and State of Virginia, have invented certain new and useful Improvements in Trolley-Stands; and I do hereby 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.

This invention relates to trolley-stands; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the trolley-stand. Fig. 2 is a plan view of the same, partly in section.

A is a stationary base-plate, which is secured to the top of the car.

B is a base-plate which is pivoted to the base-plate A by a pin *b* or any other approved means, so that the plate B can be swung around in a horizontal plane to reverse the trolley.

C is the trolley-pole, and *c* is the usual trolley-head carried by the said pole and pressed into engagement with the conductor or wire. The trolley-pole C is secured to a socket-plate E, which is pivoted to the base-plate B by a pin *e*, so that the trolley-pole and its socket-plate can move freely in a vertical plane. The base-plate B is preferably provided with lugs *e'*, and the lower part of the socket-plate E is pivoted on the pin *e* between the said lugs *e'*.

F and G are toggle links or levers. Two links F are preferably provided and are pivoted to the socket-plate E by a pin *f* above the said pin *e*. The links F are pivoted to the link G by a pin *g* at the bending-point or knee-point of the toggle links or levers. The free end of the link G is provided with a cross-bar H, which slides in guide-slots *h* in the sides of a pocket *h'* on the end portion of the base-plate B.

I represents fastening-lugs on the base-plate B, and *i* represents springs which extend between the fastening-lugs and the end portions of the cross-bar H. These springs

are provided with screws *i'* or other approved means for adjusting their tension, and they operate to press the trolley-head upward into engagement with the line-wire.

J is an adjustable stop on the under side of the link G, which bears against a boss *j* on the base-plate B and which normally holds the center of the pin *g* a little below a line drawn through the centers of the cross-bar H and the pin *f*.

K is an adjustable tappet secured to the socket-plate E below one of the links F, and *k* is a similar adjustable tappet secured to the said socket-plate above the said link. The socket-plate E is provided with slots *k'*, which permit the positions of the tappets to be adjusted in a vertical direction; but the tappets may be made adjustable in any other approved manner.

The springs and the stop J normally hold the parts in the positions shown in the drawings, and the cross-bar is free to slide longitudinally in its guide-slots, so that the trolley-head may adapt itself to the line-wire. When the trolley-head leaves the line-wire and flies upward, the tappet K strikes the link F and moves the center line of the pin *g* upward, so that the toggle links or levers are doubled up by the springs, and the trolley-head drops down into a position in which it will not strike any of the supports which hold the line-wire in position. The tappet *k* is for setting the links by pulling down the trolley-pole.

What I claim is—

1. In a trolley-stand, the combination, with a base-plate, a plate pivoted to the said base-plate, and a trolley-pole carried by the said plate; of toggle-links pivoted at one end to the said plate, a spring between the other end of the said links and the said base-plate, and a tappet on the said plate which doubles up the said links automatically when the trolley-head leaves the line-wire.

2. In a trolley-stand, the combination, with a base-plate, a plate pivoted to the said base-plate, and a trolley-pole carried by the said plate; of spring-pressed toggle-links pivoted to the said plate, a stop on one of the said links which normally bears on the said base-plate and holds the links substantially

in line, and a tappet on the said plate which doubles up the said links automatically when the trolley-head leaves the line-wire.

3. In a trolley-stand, the combination,
5 with a base-plate, a plate pivoted to the said base-plate, and a trolley-pole carried by the said plate; of spring-pressed toggle-links pivoted to the said plate, a tappet on the said plate below one of the said links for doubling
10 them up automatically, and a second tappet on the said plate above the said link for placing the links substantially in line when the trolley-pole is pulled down.

4. In a trolley-stand, the combination
15 with a base-plate provided with guide-slots at one end, a plate pivoted to the other end of the said base-plate, and a trolley-pole carried by the said plate; of toggle-links pivoted at one end to the said plate, a cross-bar at
20 the other end of the said links which slides in the said guide-slots, springs arranged between the said base-plate and the ends of the

said cross-bar, a stop which normally holds the toggle-links substantially in line, and a tappet on the said plate which doubles up
25 the links automatically when the trolley-head leaves the line-wire.

5. The combination, with a base-plate, and a pole-support pivoted thereto; of toggle-links pivoted at one end to the said pole-sup-
30 port, a spring arranged between the other end of the said toggle-links and the said base-plate, means for preventing the said toggle-links from folding downward, and a tappet which moves with the said pole-support and
35 which folds the said toggle-links upward when the trolley leaves the line-wire.

In testimony whereof I have affixed my signature in the presence of two witnesses.

BONIFACE A. GRASBERGER.

Witnesses:

R. R. FLORANCE,
J. KENT RAWLEY.