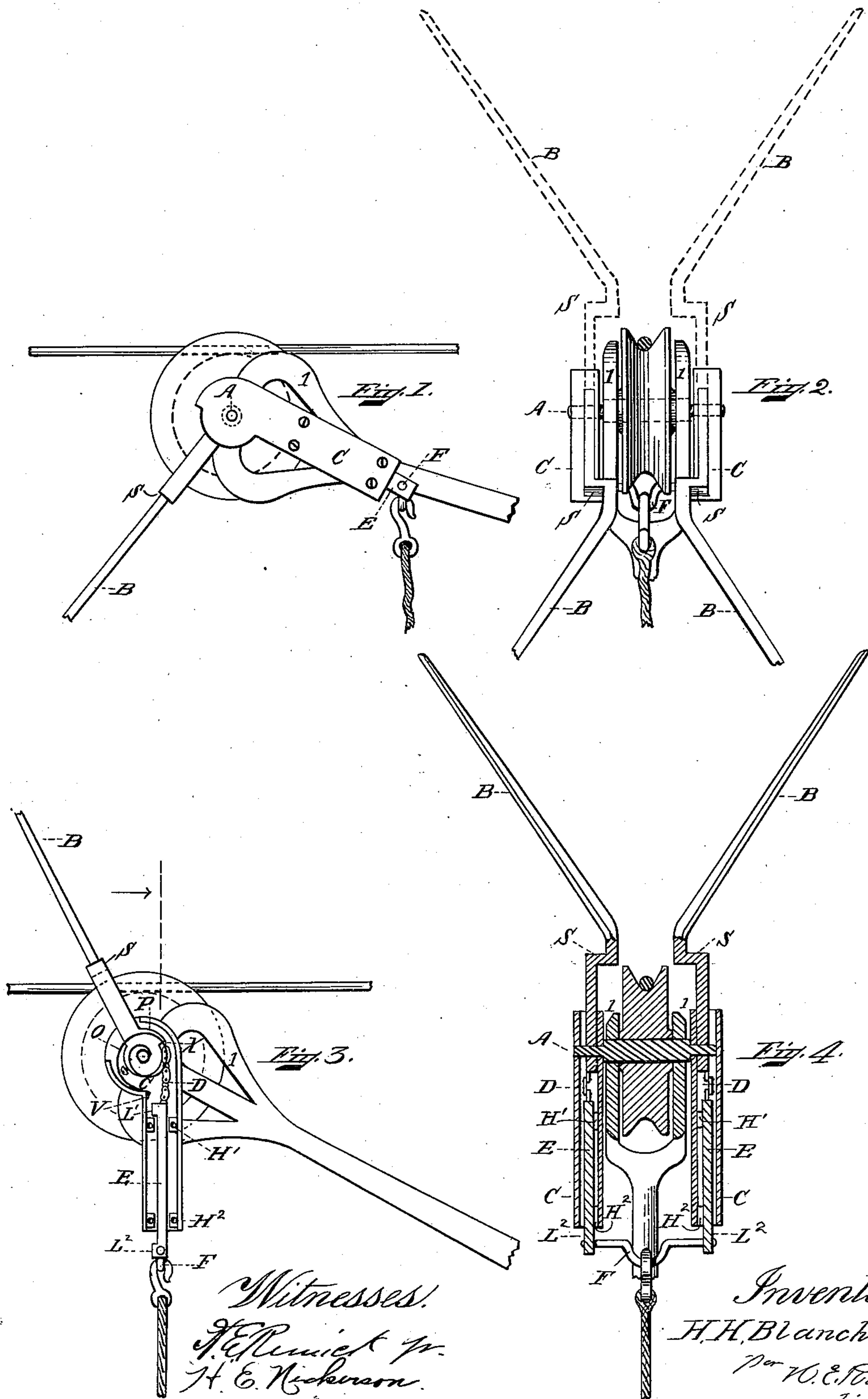


(No Model.)

H. H. BLANCHARD.  
TROLLEY FINDER.

No. 563,998.

Patented July 14, 1896.



Witnesses:  
J. E. Purnick Jr.  
H. E. Nicholson.

Inventor:  
H. H. Blanchard,  
Per W. E. Purnick  
his atty.



# UNITED STATES PATENT OFFICE.

HARRY H. BLANCHARD, OF AUGUSTA, MAINE.

## TROLLEY-FINDER.

SPECIFICATION forming part of Letters Patent No. 563,998, dated July 14, 1896.

Application filed September 24, 1894. Serial No. 523,982. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY H. BLANCHARD, of Augusta, in the county of Kennebec and State of Maine, have invented a new and useful Improvement known as a Guide for a Trolley-Arm or Trolley-Finder, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention has for its object to provide an attachment to a trolley-arm with a suitable device serving as a guide to assist in replacing the trolley-wheel upon the wire.

In accordance with this invention, outwardly-flaring arms are fastened to the shaft on which the trolley-wheel revolves, one at each side of said wheel. To replace the trolley-wheel upon the wire, the flaring arms are brought into an upright position by a suitable cord provided for that purpose, at the same time drawing the trolley-arm down until it is below the wire, said flaring arms guiding the wire into the wheel as the cord is slackened. When the trolley-arm is drawn down away from the wire by the cord to permit turning or reversing the same, the arms are automatically thrown into a vertical position, thus presenting a substantially vertical, wide, flaring entrance or guide to the trolley-wheel, making it easy to replace the same upon the wire, the said arms guiding the wire into the trolley-wheel, but when the arms are in their normal position, which is the position occupied when the car is in motion, they are in a hanging position, which is below the longitudinal center line of the trolley-wire, so that they are out of the way of and will pass freely under any span-wire or obstruction upon the trolley-wire without striking the same.

This invention has the advantage of being easily attached to any ordinary trolley-arm as now used.

Figure 1 of the drawings herewith shows the side view of the trolley-wheel with the arms B of the invention in their normal position, while the wheel is resting against the trolley-wire. Fig. 2 represents my invention as viewed from the rear and looking toward the direction of the car in motion. Fig. 3 represents a side view of my invention with one side plate or cover of the mechanical appliance removed and the arms elevated in

position as when used as guides to the trolley-wire. Fig. 4 represents a vertical section of the invention with the arms elevated.

The flaring arms B are firmly attached to the shaft A on each end, and project from the point of attachment parallel to each other to a point outside of the periphery of the wheel, where a shoulder is formed in the arms and represented in Figs. 2 and 4 by the letter S, and from the shoulder on either side of the wheel the arms B flare outwardly, as shown in Figs. 2 and 4, for the purpose of guiding the wire directly into the trolley-wheel.

The shaft A is journaled into the boxes C on either side, as shown in Figs. 2 and 4.

The head of the arms B, through which the shaft A is fitted and securely fastened, is circular in shape, with a shoulder P extending from the arm proper a quarter of the way around the head and on the upper edge, the edges being flat in order to serve as a pulley for the chains D to run on, as will be seen in Fig. 3.

The chains D are fastened on either side to the shoulders P at the point X and the other end to the rods E, which slide on either side in the interior blocks H' and H<sup>2</sup>. The two rods E are connected at their lower ends by the link F, to which the operating-cord is attached, as shown in Figs. 2 and 4.

A coil-spring O is attached one end to the shaft A on the outer side of the arms B; and the other end is fastened to the boxes C at the point V. The coil-springs O are for the purpose of returning the arms B from the vertical to their normal position after using, as shown in Figs. 1 and 2.

The head of the arms B, coil-springs O, chains D, rods E, and the two interior blocks H' and H<sup>2</sup> are inclosed in and protected by the two blocks C, which are journaled onto the shaft A, as shown in Figs. 2 and 4.

To replace the trolley upon the wire after the same has accidentally or otherwise been removed, the rope which is attached to the link F connecting the two rods E is drawn down until the lips L' on the upper end of the rods E strike the upper surface of the interior blocks H', thus unwinding the chains D from the head of the arms B, throwing said



arms B into an upright position, as shown in Figs. 3 and 4.

After the trolley-wire has been guided into the wheel, the coil-springs O return the arms  
5 B back to their normal position, thus winding the chains D on the head of arms B. The rods E, being attached at the upper end to the lower end of chains D, are drawn up through the interior blocks H' and H<sup>2</sup> until the lips  
10 L<sup>2</sup> on the lower end of rods E strike the lower surface of the interior blocks H<sup>2</sup>, leaving the arms B and the boxes C at right angles, as shown in Figs. 1 and 2.

I do not intend to limit my invention to the  
15 precise construction of the parts in the form as herein described and shown by the several figures, for the reason that the same application of parts may be easily varied without in the least changing the mechanical application  
20 of the same or departing from the scope of my invention.

I claim—

1. In a trolley-finder, the right and left flaring arms B, provided with the shoulders  
25 P, the chains D, supported by said shoulders, the sliding rods E, provided at each end with the projecting lips L', L<sup>2</sup>, and the terminal link F, adapted to support the operating-cord and to unite said sliding rods, all sub-

stantially in the manner and for the purpose 30 specified.

2. In a trolley-finder the combination with the chains, the flaring arms, and the sliding rods, as hereinbefore described, of the boxes C, provided with interior blocks H', H<sup>2</sup>, 35 adapted to prescribe the vertical movement of the sliding rods E, the coil-spring O, attached to the shaft A, and the chains D, substantially in the manner specified.

3. In combination with the boxes C, the 40 sliding rods E, and the chain D, the flaring arms adapted to be thrown into a vertical position by an operating-cord, automatically to recover the trolley-wire, the coil-spring adapted to return said arms to their normal 45 position below said trolley-wire, the operating-cord, the shaft A, supporting said flaring arms and the trolley-wheel, substantially in the manner and for the purpose set forth.

In testimony whereof I have signed my 50 name to this specification, in the presence of two subscribing witnesses, on this 19th day of September, A. D. 1894.

HARRY H. BLANCHARD.

Witnesses:

H. L. BLANCHARD,  
SUSAN J. BLANCHARD.