No. 879,582. PATENTED FEB. 18, 1908.

R. PHILLIPS.

TROLLEY RETRIEVER.

APPLICATION FILED JUNE 8, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

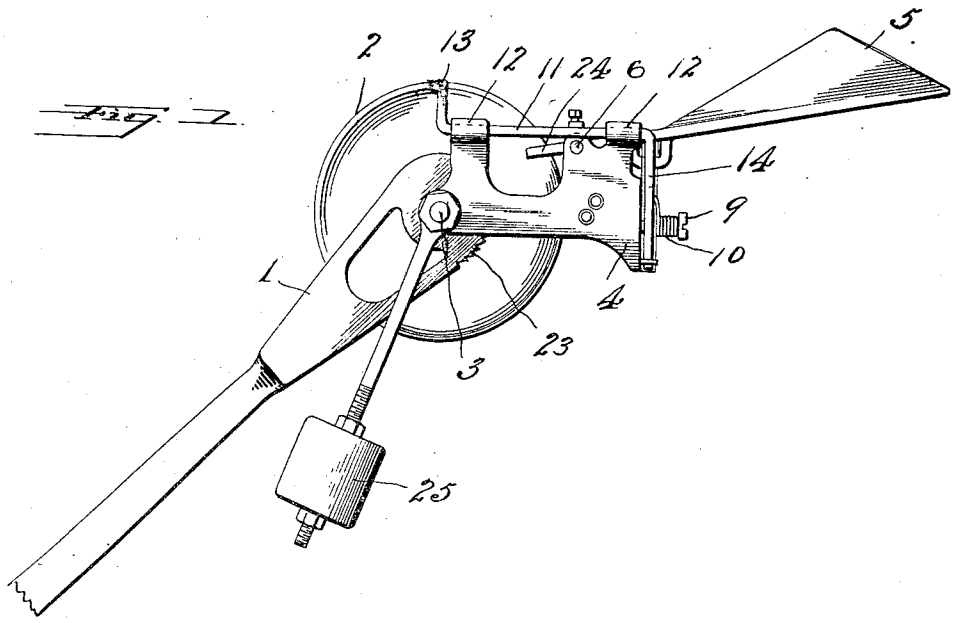
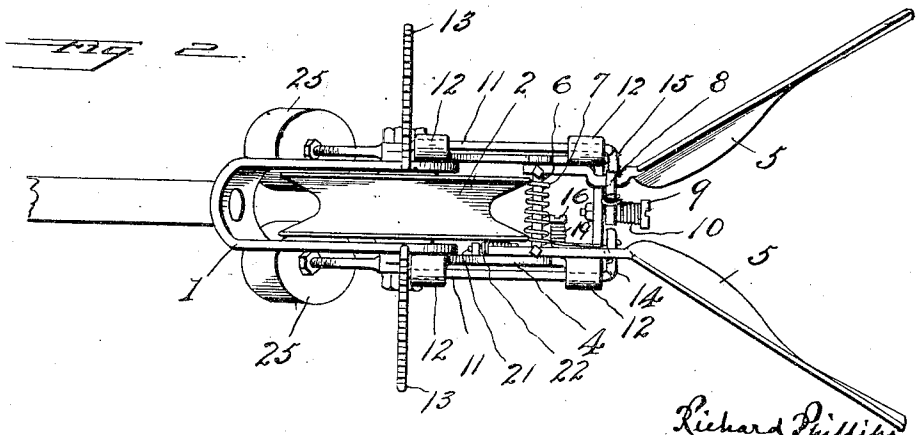


Fig. 2.



Richard Phillips.

Inventor

Witnesses

Chas. T. Davis

A. R. Watson

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Fig. 3.

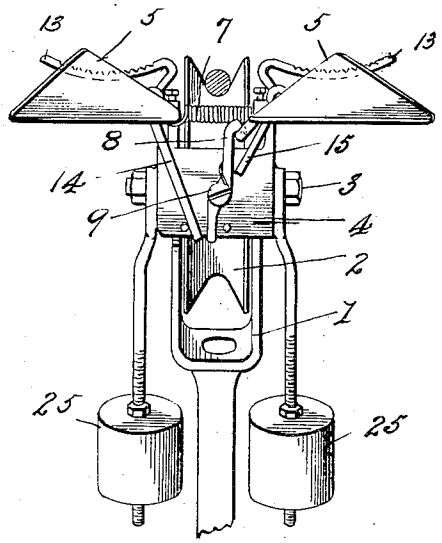


Fig. 5.

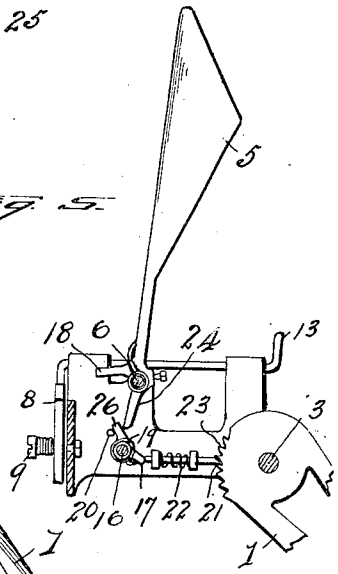
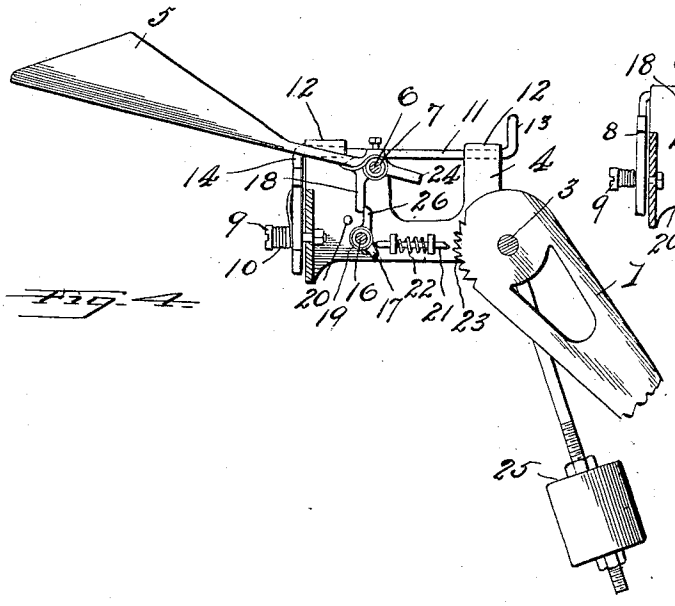


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD PHILLIPS, OF WASHINGTON, DISTRICT OF COLUMBIA.

TROLLEY-RETRIEVER.

No. 879,582. Specification of Letters Patent. Patented Feb. 18, 1908.

Application filed June 8, 1906. Serial No. 320,713.

To all whom it may concern:

Be it known that I, RICHARD PHILLIPS, a native-born citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Trolley-Retrievers, of which the following is a specification.

This invention relates to improvements in trolley retrievers or finders.

The main object of the present invention is to provide a means adapted to be in proper position for operation at all times independent of the height of the feed wire.

Another object is to provide a means which is automatically thrown into and out of operative position without any attention on the part of the conductor.

The preferred details of construction of the present invention will be described in the following specification, reference being had particularly to the accompanying drawing in which:—

Figure 1 is a side elevation of my improved trolley retriever: Fig. 2 is a plan view of the same: Fig. 3 is a rear elevation, Fig. 4 is a vertical central sectional view with the trolley wheel omitted: Fig. 5 is a similar sectional view showing the V guide thrown to upright or operative position.

Referring particularly to the drawing, 1 is the ordinary trolley pole harp; 2 is the trolley wheel, and 3 is the pin on which the wheel is mounted.

In the preferred form of my device the pin is extended slightly beyond the arms of the harp. On the extended ends of the pin 3 is pivotally mounted a frame 4. At the rear of the frame is a V shaped guide 5 which is pivotally mounted on the same by means of the pin 6, said pin being securely attached to the blades of the guide 5 and free to turn in the frame 4. A coil spring 7 attached at one end to the guide, and at the other to the frame, tends to force the guide to an upright position as shown in Fig. 5. The guide however is normally locked in a horizontal position by the double armed catch 8, which engages one of the arms of said guide. The catch 8 is pivoted on the stud 9 and carries the coil spring 10 which forces the catch into engagement with one arm of the guide.

Mounted upon the upper edges of the frame 4 are two levers 11, 11, pivoted to the frame by four lugs 12, said levers having at their forward ends transversely extending notched arms 13, which arms are slightly curved and adapted to contact with the feed wire when the wheel flies off. At the rear ends of levers 11 are downwardly and inwardly extending arms 14, 15, adapted to bear against the lower and upper arms respectively of the catch 8.

Upon a stud 16 carried on one of the inner sides of the frame 4 is a small lever 17, and upon the adjacent arm of the guide 5 is a downwardly extending arm 18 adapted to strike one side of the upper arm 26 of the lever 17, and at substantially a right angle to arm 18 is an arm 24 adapted to strike the other side of arm 26. Stop 20 prevents arm 26 from swinging too far back, and a spring 19 presses said arm in the direction of said stop. In front of lower arm of lever 17 is a sliding bolt 21, which is pressed against said lever arm by a spring 22. The forward end of bolt 21 is brought to an edge and adapted to engage ratchet teeth 23 cut on the periphery of one of the arms of harp 1.

Rigidly attached to frame 4 at the juncture with the pin 3 are two downwardly and forwardly suspended weights 25. These weights are held by screw threads so that they may be adjusted to varying heights. I have found that when the weights are projected somewhat in advance of the vertical passing through the pin the action is most satisfactory although the device would be operative were they suspended directly below the same.

The operation of the invention is as follows: The guide 5 is normally locked in the horizontal position on the frame 4, but when the trolley slips from the feed wire and flies upwardly beside the same, one of the arms 13 strikes the wire and this actuates one of the rear arms 14 or 15 of the bent lever 11, which in turn presses on the catch 8 and causes it to release the guide 5. The guide is then forced to an upright position by the spring 7, and the diverging arms of the guide serve to guide the trolley back to the feed wire. As the guide assumes the upright position the integral arm 18 which has been bearing on the lever 17 moves away from the same and allows the spring 19 to force the bolt 21 into engagement with the teeth 23 on the harp 1 and thereby lock the frame 4 so that it cannot swing downwardly. As the guide completes its upright movement the arm 24 strikes the upper arm 26 of lever 17 thereby preventing the guide from swinging too far in this direction, and also more securely

forcing the bolt 21 into locking engagement with the teeth on the harp arm. When the trolley passes below a cross wire or other obstruction, the guide is returned to the horizontal position by the pressure against the wire or other obstruction, and through the tension of the springs the parts assume their original position.

I claim:—

1. In a trolley retriever, a swinging frame, means mounted in sockets on said frame for contacting with the feed wire when the trolley is thrown upwardly, means for engaging the wire to direct the trolley wheel back again to the same, said contacting means actuating said engaging means to throw the same into operative position.

2. In combination, a trolley pole, a harp formed on said pole, a trolley retriever having a swinging frame pivotally mounted in said harp, and a V-shaped guide, means automatically actuated to place said guide in operative position when the trolley is thrown upward and lock the frame to the harp.

3. In a swinging trolley retriever, means for engaging the feed wire means for locking said wire engaging means in inoperative position, means for automatically releasing said engaging means, and means for automatically relocking said engaging means when the same is forced under a cross wire.

4. In combination, a trolley pole, a harp formed on said pole, a trolley retriever having a pivotally mounted frame, means to automatically lock said frame to the harp of the pole when the trolley flies off, and means to relieve the same when the retriever has passed under a cross wire.

5. In a trolley retriever, a swinging frame weighted to a horizontal position, means for engaging the feed wire to return the wheel when the same flies off, said means being normally locked in inoperative position, means to automatically throw the engaging means into operative position, a trolley harp, means to lock the frame to the trolley harp while the engaging means is in operative position, and to release the frame when passed under a cross wire.

6. In a trolley retriever, a harp, a pin passing through said harp and beyond the arms of the same, a wheel carried by said pin, a frame pivotally mounted on the extended ends of said pin, a V shaped guide pivotally mounted at the rear of said frame, and a weight suspended from and rigidly attached to said frame at the point of juncture with said pin.

7. In a trolley retriever, a harp, a pin passing through said harp and beyond the arms of the same, a wheel carried by said pin, a frame pivotally mounted on the extended ends of said pin, a V shaped guide pivotally mounted at rear of said frame, resilient means for forcing said guide to an upright position, and a weight suspended from and rigidly attached to said frame at the point of juncture with said pin.

8. In a trolley retriever, a harp, a pin passing through said harp and beyond the arms of the same, a wheel carried by said pin, a frame pivotally mounted on the extended ends of said pin, a V shaped guide pivotally mounted at the rear of said frame, resilient means for forcing said guide to an upright position, means for locking said guide in a horizontal position, and a weight suspended from and rigidly attached to said frame at the point of juncture with said pin.

9. In a trolley retriever, a harp, a pin passing through said harp and beyond the arms of the same, a wheel carried by said pin, a frame pivotally mounted on the extended ends of said pin, a V shaped guide pivotally mounted at the rear of said frame, means for locking said guide in a horizontal position, means for releasing said guide, resilient means for forcing said guide to an upright position, and a weight suspended from and rigidly attached to said frame at the point of juncture with said pin.

10. In a trolley retriever, a harp, a pin passing through said harp and beyond the arms of the same, a wheel carried by said pin, a frame pivotally mounted on the extended ends of said pin, a V shaped guide pivotally mounted at the rear of said frame, means for locking said guide in a horizontal position, means for releasing said guide, resilient means for forcing said guide to an upright position, means for locking said frame to said harp while the guide is in an upright position, and a weight suspended from and rigidly attached to said frame at the point of juncture with said pin.

11. In a trolley retriever, a swinging frame, means at the rear of the frame to engage the feed wire, means for locking said wire engaging means in inoperative position when the device has passed under a cross wire, and to be released when the trolley flies off, and weights rigidly attached to the forward ends of the frame.

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

RICHARD PHILLIPS.

Witnesses:
JNO. T. NEANY,
HOWARD A. BURNS.