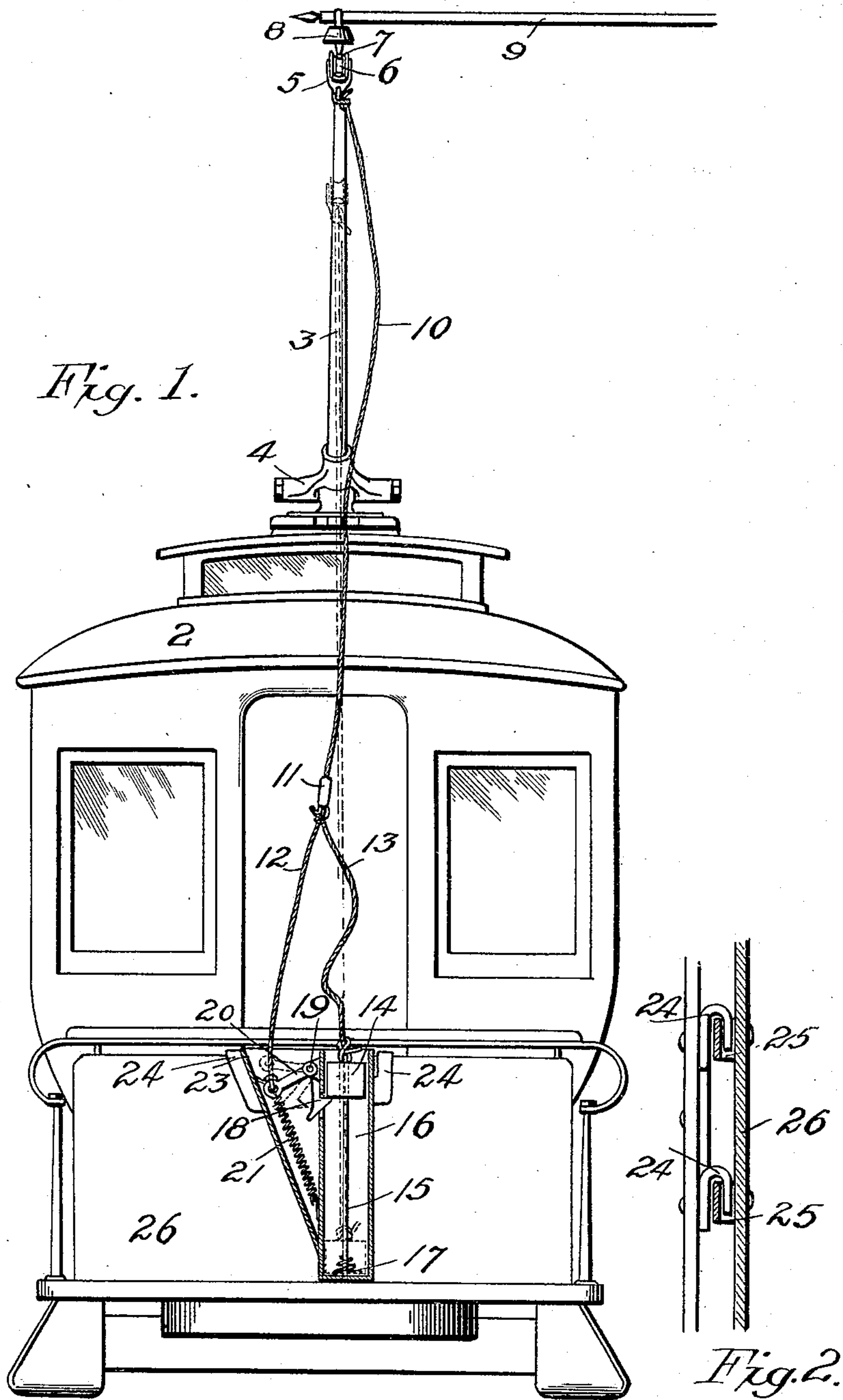


(No Model.)

J. WERLING & J. F. AGNEW.
TROLLEY CATCHER.

No. 487,808.

Patented Dec. 13, 1892.



Witnesses.
C. E. Van Doren,
C. J. Hawley.

Inventors.
Joseph Werling,
James F. Agnew.
By Paul & McArthur
Attorneys.

UNITED STATES PATENT OFFICE.

JOSEPH WERLING AND JAMES F. AGNEW, OF MINNEAPOLIS, MINNESOTA.

TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 487,808, dated December 13, 1892.

Application filed February 25, 1892. Serial No. 422,745. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH WERLING and JAMES F. AGNEW, both of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain Improvements in Safety Devices for Trolley-Poles, of which the following is a specification.

Our invention relates to means for preventing the breakage of trolley-poles or the overhead hangers of the trolley-wire; and its object is to provide a simple device or dummy in connection with the trolley-pole and by means of which the trolley-pole will be immediately pulled down when the trolley jumps the wire; and to this end our invention consists in a retractile device arranged upon the rear end of the car and connected with the lower end of the trolley-pole rope, means being provided for tripping the retractile device the instant the trolley leaves the wire and raises the trolley to a dangerous height, whereupon the device acts to instantly draw down the pole to the roof of the car and remove the trolley from possible contact with the hangers, guy-wires, or supporting-arms of the overhead conductor-wire.

Our invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 shows an end elevation of a car provided with one of our devices, the same being connected with the trolley-pole. Fig. 2 is a detail showing the manner of removably securing our device on the dash-board.

As shown in the drawings, the car 2 is provided with the usual trolley-pole 3, hung upon the spring trolley-base 4 and carrying upon its upper end the trolley-fork 5, wherein the trolley-wheel 6 is secured.

7 represents the trolley-wire, and 8 the hanger thereof, suspended from the arm 9 or in any other suitable manner. The trolley-rope 10 is fastened near the upper end of the pole and extends down over the rear end of the car, being provided on its lower end with a snap-hook 11, from which a short length of rope 12 and a somewhat longer one 13 branch. The latter carries upon its lower end a weight 14, which is heavy enough to draw down the trolley-pole against the tension of the spring

in the trolley-base. This weight is adapted to move up and down on the guide-rod 15 and is confined in the box or case 16, in the lower part of which a small cushion-spring is arranged to take up the jar of the weight when the same falls. The weight is normally held in the position shown in full lines by the latch-hook 18, formed on the bell-crank, pivoted at 19, and having the arm 20. Between this arm and the lower part of the box 16 we provide a strong spring 21, adapted to hold the hook normally forward. The lower end of the rope 12 is fastened in the arm 20 and the latch is preferably inclosed in the jutting portion 23 of the box. This box is provided on its back with one or more hooks 24, by means of which the same is secured upon the staple-bars 25, fixed on the dash-board 26 and which ordinarily accommodate the head-light of the car. Our device is thus adapted for the rear end of the car, while the head-light is adapted for use on the front end of the same, and at the end of the street-car line our box and the head-light are readily changed from one end to the other. The length of the trolley-rope 10 and of the extension-rope 12 thereof is adjusted with enough slack to permit the trolley to at all times run upon the wire, but of such a length that if the trolley jumps from the wire and the pole thereupon straightens up the trolley-rope will be drawn taut and the latch will be withdrawn, whereupon the weight will immediately drop and pull down the trolley-pole and the trolley thereon below the line of the trolley-wire, and hence out of reach of any of the supports for the same. The trolley-pole will now be held down until the conductor draws up the weight beyond the latch, after which he may adjust the trolley upon the wire.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the car, of the trolley-pole arranged thereon and provided with the trolley, as described, the trolley-rope 10, the short rope 12, the rope 13, longer than the rope 12, a retractile device connected with the lower end of the rope 13, and a spring-latch arranged to support the same and wherewith

the lower end of the rope 12 is connected, substantially as described, and for the purpose specified.

2. The combination, with the car, of the
5 trolley-pole thereon, the trolley carried thereby, the trolley-wire and the supports thereof, the trolley-rope 10, having ends 12 and 13, a
box arranged upon the end of the car, a
weight 14, vertically movable in said box, said
10 weight fastened to the lower end of said rope 13, a cushion arranged in the bottom of said box, a pivoted latch 18 to engage said weight when in its upper position, an arm upon said

latch, and a spring to normally hold said latch in its forward position, and the lower end of the 15 rope 12 connected with said arm, whereby as the trolley leaves the wire said latch is operated to release said weight and draw down the trolley-pole, substantially as described.

In testimony whereof we have hereunto set 20 our hands this 10th day of February, 1892.

JOSEPH WERLING.

JAMES F. AGNEW.

In presence of—

C. G. HAWLEY,

F. S. LYON.