

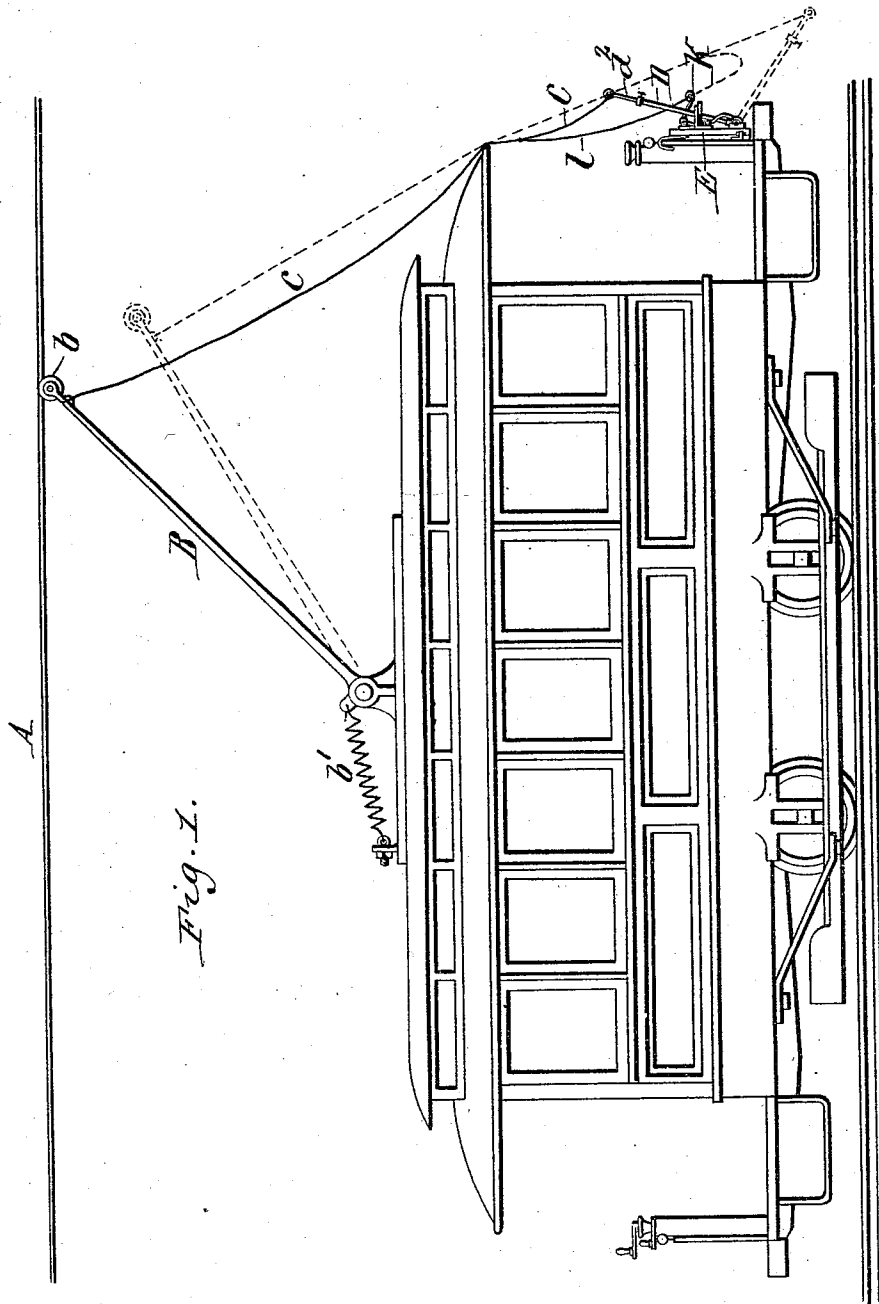
(No Model.)

2 Sheets—Sheet 1.

L. G. MOWRY.
TROLLEY CATCHER.

No. 517,166.

Patented Mar. 27, 1894.



WITNESSES.

Chas. F. Burkhardt.
Theo. L. Popp.

Levi G. Mowry

INVENTOR.

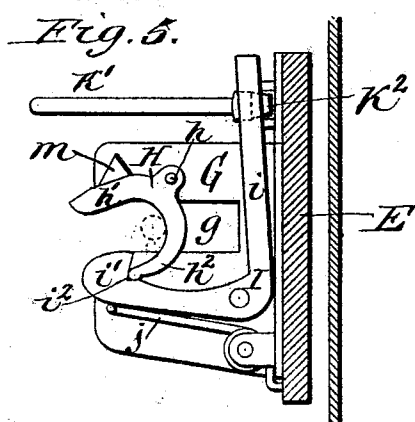
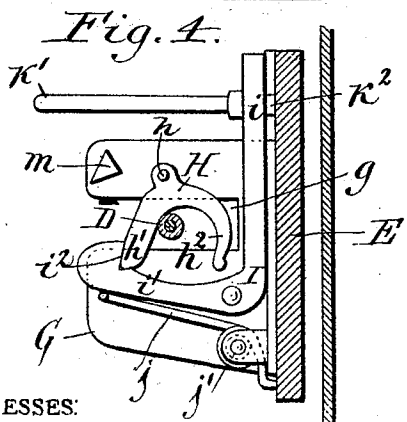
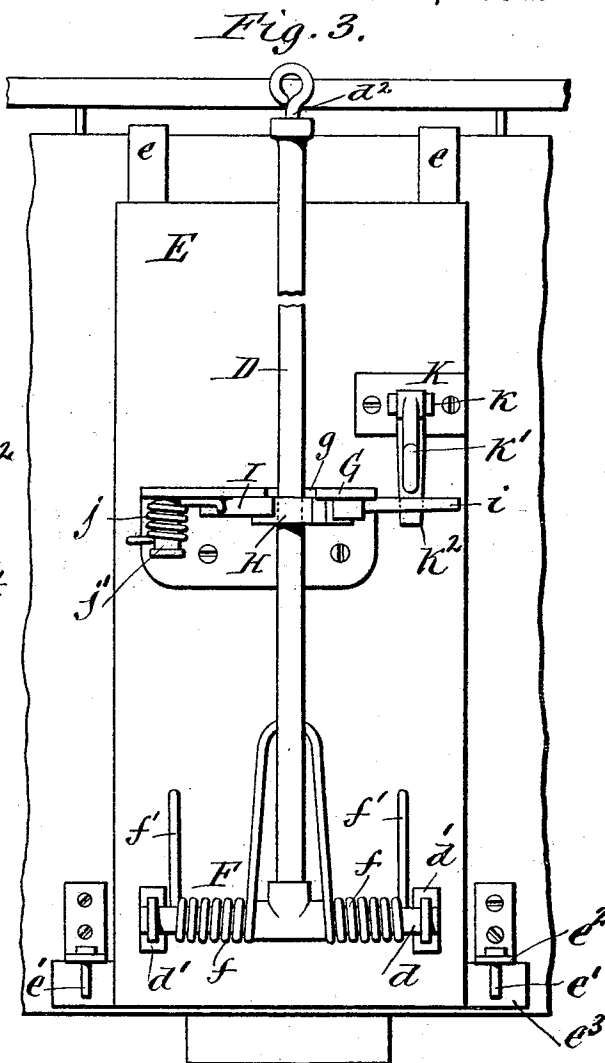
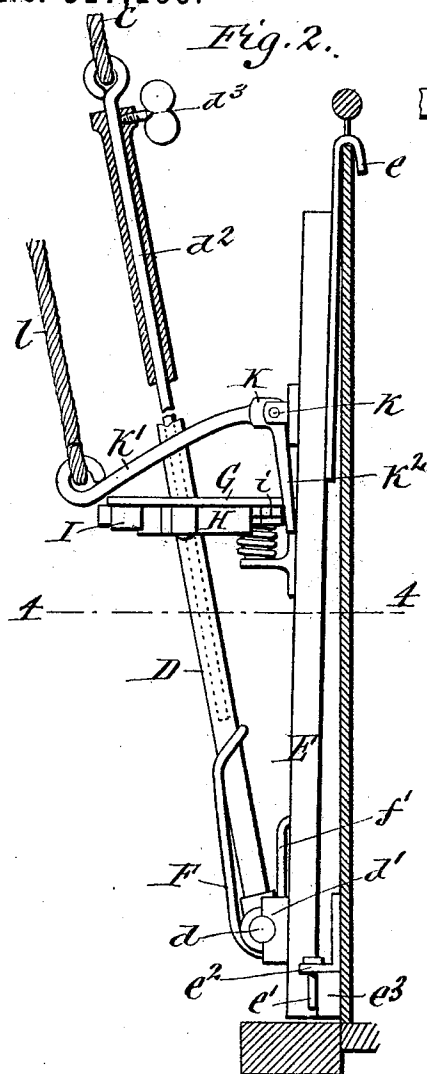
By Wilhelm Stommel.

ATTORNEYS

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UNITED STATES PATENT OFFICE.

LEVI G. MOWRY, OF BUFFALO, NEW YORK.

TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 517,166, dated March 27, 1894.

Application filed December 11, 1893. Serial No. 493,308. (No model.)

To all whom it may concern:

Be it known that I, LEVI G. MOWRY, a citizen of the United States, residing at the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Trolley-Catchers, of which the following is a specification.

This invention relates to a device for automatically depressing the trolley out of reach of the transverse arms or cross wires which support the trolley-wire, in case the trolley accidentally leaves the wire. The trolley usually runs against the under side of this wire and is pressed against it by springs applied to the trolley pole. When the trolley accidentally leaves the wire, these springs swing the pole and the trolley above the wire, causing the pole to strike the supporting arms and cross wires in its path. The pole is thus not only liable to become bent or broken as well as to injure or break such cross wires or arms, but the trolley, by catching in one of the forks at the junction of the switch wires with the main wire, is liable to tear the trolley pole from the top of the car.

The object of my invention is the provision of a reliable device which shall depress the trolley below the system of supporting arms or cross wires in the event of the trolley leaving the wire and which will hold the same in that position until it is released and replaced against the wire by the conductor or other attendant.

In the accompanying drawings consisting of two sheets:—Figure 1 is a side elevation of a street car provided with my improved depressing device. Fig. 2 is a sectional elevation of the device, on an enlarged scale, showing the depressor rod in its normal, elevated position. Fig. 3 is a front view of the device. Fig. 4 is a horizontal section in line 4—4, Fig. 2, looking upward, showing the position of the parts when the depressor rod is locked in its elevated position. Fig. 5 is a similar section taken on the same line, showing the position of the parts when the depressor rod is released.

Like letters of reference refer to like parts in the several figures.

A represents the trolley wire, B the trolley pole attached to the top of the car in any ordinary manner, b the trolley journaled at the

upper end of the pole, b' the spring connected with the pole for pressing the trolley against the wire, and c the rope attached to the upper portion of the pole for lowering it by hand.

D is a vertically movable depressor connected with the trolley pole, for lowering the same when the trolley accidentally leaves the wire. This depressor consists of a vertically swinging rod or bar pivoted at its lower end to a base board E, which is preferably removably attached to the dash board of the car. For this purpose the board is provided at its upper end with hooks e which engage over the upper edge of the dash board and the latter is provided on its front side, near its lower end, with removable pins or bolts e', which are arranged in perforated horizontal ears e² secured to the dash board and which overlap the projecting ends of a cross bar e³ secured to the lower end of the base board, as clearly shown in Figs. 2 and 3. The depressor rod is provided at its lower end with a cylindrical cross head or bar d, the end portions of which are journaled in bearings d' secured to the board E. The lower end of the trolley rope may be attached directly to the upper end of this depressor rod, but it is preferably secured to the upper end of an adjustable rod d² which telescopes into the hollow depressor rod and is secured therein by a set screw d³.

F is a spring applied to the depressor rod and tending to swing the same downwardly and outwardly. This spring preferably consists of a loop bearing with its outer bow-portion against the rear side of the depressor rod, and coils f f surrounding the cylindrical cross head of said rod on opposite sides of the latter and bearing with their end portions f' against the board E.

G is a bracket or horizontal supporting plate secured to the upper portion of the base board E and having a longitudinal slot g adapted to receive the depressor rod.

H is a holder whereby the depressor rod is confined in the slot of said bracket and held in its upright position against the pressure of its spring. This holder is approximately U-shaped and is pivoted to the under side of the bracket, on one side of the slot of the latter, by a vertical pin h passing through a lug formed on the curved portion of the holder,

so that the latter is capable of swinging horizontally. The front arm or member h' of this holder is adapted to extend across the slot of the bracket G, in front of the depressor rod as shown in Figs. 3 and 4, and the holder is locked in this position by a catch I. The latter consists of a horizontal elbow lever pivoted to the under side of the slotted bracket G on the side of the slot opposite that on which the holder is pivoted. The long rear arm i of this catch is arranged adjacent to the base board E, while its short front arm i' extends forwardly from the pivot of the catch and is provided with a locking nose or shoulder i^2 with which the front arm of the holder is adapted to interlock, as shown in Fig. 4, thereby holding said arm against outward movement and confining the depressor rod in its upright position. j is a spring whereby the locking shoulder of the spring catch is held in engagement with the holder and which consists preferably of a coil surrounding a depending stud j' secured to the bracket G and bearing with its front branch against the rear side of the shouldered arm of the catch and with its other branch against the base board.

K is a trigger or trip lever whereby the spring catch I is unlocked from the holder, for releasing the depressor rod. This trigger is arranged above the slotted bracket G and mounted on a horizontal pivot k carried by the base board. The actuating arm k' of this trigger extends forwardly from the pivot of the latter, while its rear arm k^2 extends downward from said pivot and engages against the rear side of the releasing arm i of the locking catch.

l is a trip or branch cord attached at its upper end to the main trolley rope c and at its lower end to the actuating arm of the trigger K, as shown in Fig. 1. This trip cord is of such a length that when the trolley is in engagement with the wire, the cord hangs slack and does not affect the trigger, while when the trolley leaves the wire and rises above the same, the cord is drawn taut and caused to pull the trigger.

When the parts are in the normal position, shown in Figs. 1, 2, 3 and 4, and the trolley accidentally runs off the wire, the trip cord pulls the trigger, causing the depending arm of the latter to move forwardly and swing the rear arm of the locking catch in the same direction. This movement causes the front arm of the catch to move laterally out of engagement with the front arm of the holder, and the latter being now unlocked, releases the depressor rod and permits the same to be swung down by the reaction of its spring. As the rope of the trolley pole is connected with the depressor rod, the pole, with the trolley, is drawn down by the rod clear of the supporting arms or cross wires of the system and held in that position until the depressor rod is again elevated. Injury to such wires and arms and to the trolley pole is thus obviated, and the danger to life incident to the use of

trolley poles unequipped with such an automatic depressor is avoided.

The depressor rod in swinging down moves aside the front arm of the released holder, whereby the latter is swung into the position shown in Fig. 5, the outward movement of the holder beyond this position being limited by a stop m arranged on the under side of the slotted bracket G. When the holder is moved into this position, the outer end of its rear arm h^2 interlocks with the shoulder i^2 of the spring catch as shown in Fig. 5 and thus reliably retains the holder in the proper position for permitting the depressor rod to enter the slot of the bracket when it is elevated.

Upon elevating the depressor rod to its normal upright position, it strikes the rear arm of the holder and swings the same rearwardly, causing its front arm to swing across the slot of the bracket in front of the depressor rod and deflect the locking arm of the spring catch until it interlocks with the shoulder thereof as shown in Fig. 4. The depressor rod is thus locked automatically by the act of swinging it into its normal position.

It will be observed that the rear arm of the holder performs the double function of locking the holder in its open position when the depressor rod is released and swinging the holder into its closed position when said rod is elevated, and that the spring catch serves the double purpose of locking the holder in its open position as well as in its closed position.

By providing an adjustable connection between the trip cord and the depressor rod, as shown, the length of this cord can be properly and conveniently regulated, without disturbing its connection with the main trolley rope.

When the car reaches either terminal of the line, the depressing device is readily transferred to the opposite end of the car, by removing the bolts e' of the dash board and disengaging the hooks of the base board from the dash board. In order to permit the device to be applied to either end of the car, each dash board is provided with a set of perforated ears e^2 .

I claim as my invention—

1. In a trolley catcher, the combination with a swinging depressor rod, of a holder for retaining the depressor rod in its normal position, and a trip or releasing device operating on said holder and connected with the trolley, substantially as set forth.

2. In a device for lowering trolleys, the combination with a pivoted depressor rod, and a spring for lowering the same, of a locking device for retaining said depressor rod in its normal position, and a trip device acting upon said lock and connected with the trolley, substantially as set forth.

3. The combination with a pivoted depressor rod and a spring for lowering the same, of a holder for retaining the depressor rod in its elevated position, a catch for locking said

holder, and a trip device for releasing said locking catch connected with the trolley, substantially as set forth.

5 4. The combination with a pivoted depressor rod and a spring for lowering the same, of a holder for retaining the depressor rod in its elevated position, a catch for locking said holder, a trigger for unlocking said catch, and a trip cord connecting said trigger with the
10 trolley, substantially as set forth.

15 5. The combination with a pivoted depressor rod and a spring for lowering the same, of a holder for retaining the depressor rod in its elevated position, a catch having a releasing arm and a locking arm provided with a shoulder adapted to engage with said holder, and a trigger engaging with the releasing arm of said catch and connected with the trolley, substantially as set forth.

20 6. The combination with a pivoted depressor rod, and a spring for lowering the same, of a movable holder having a locking arm for retaining the depressor rod in its elevated position, and a shifting arm for moving the
25 holder into its closed position, a catch engaging with the locking arm of the holder, and a trip device for operating said catch, connected with the trolley, substantially as set forth.

30 7. The combination with a support and a bracket attached thereto, of a depressor rod pivoted to said support and having a spring for lowering it, a swinging holder pivoted to said bracket and having a front arm and a rear arm, a spring catch also pivoted to said

bracket and having a releasing arm and a 35 shouldered locking arm engaging with the front arm of the holder, a trigger having an arm engaging against the releasing arm of the spring catch, and a cord connecting the actuating arm of the trigger with the trolley, 40 substantially as set forth.

8. The combination with the pivoted depressor rod and its locking and releasing devices, of a trip cord, connected with the trolley, and an adjustable attachment con- 45 necting said trip cord with the depressor rod, substantially as set forth.

9. The combination with the pivoted hollow depressor rod and its locking and releasing devices, of a telescopic rod adjustably secured 50 in the hollow depressor rod, and a trip cord attached to said telescopic rod, substantially as set forth.

10. The combination with the detachable base board carrying the parts of the trolley 55 depressor, and provided at its upper end with hooks adapted to engage with the dash board of the car and at its lower end with a cross bar, of the dash board having removable bolts or pins which overlap the end portions of said 60 cross bar, substantially as set forth.

Witness my hand this 5th day of December, 1893.

LEVI G. MOWRY.

Witnesses:

CARL F. GEYER,
THEO. L. POPP.