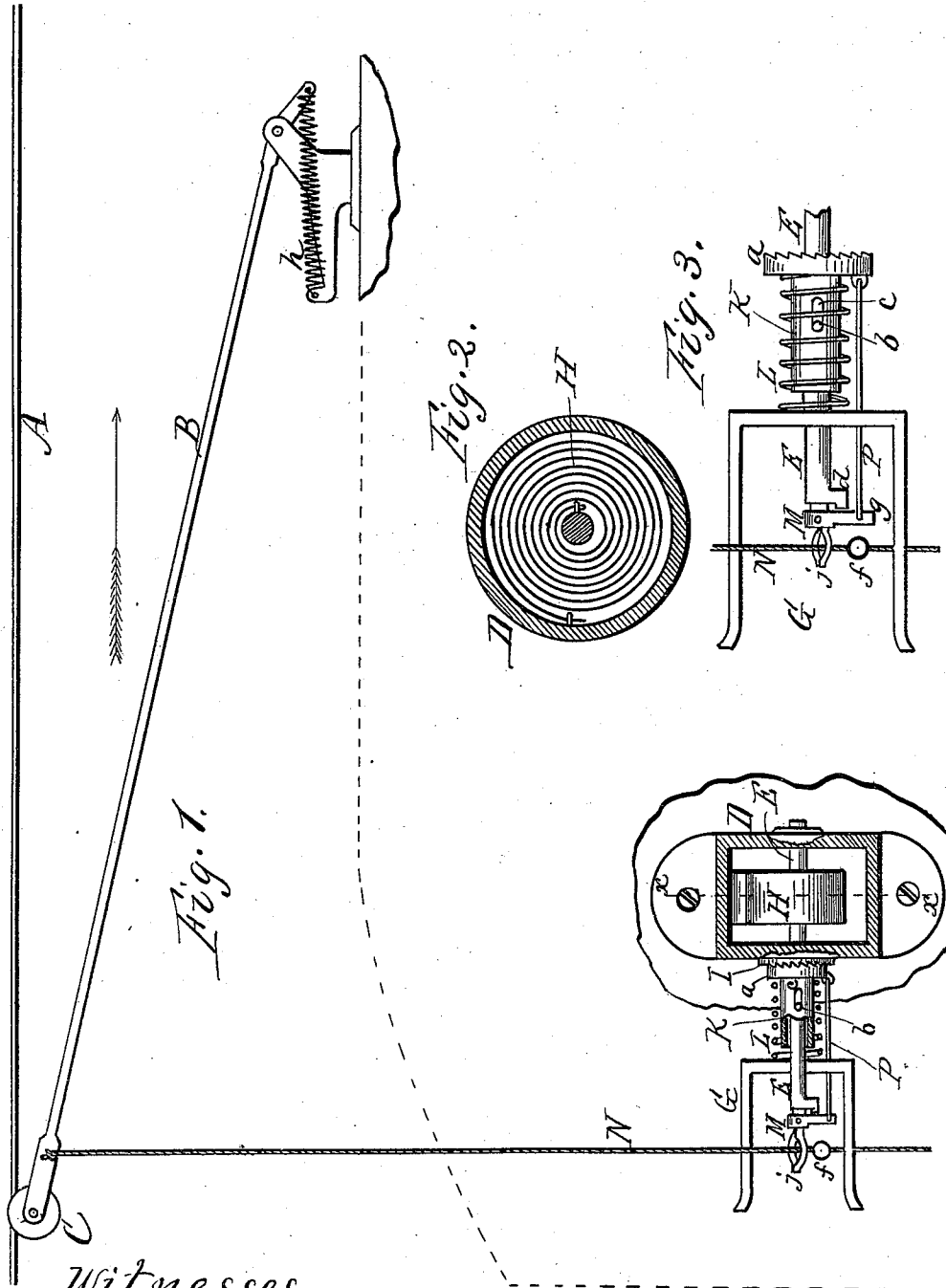


(No Model.)

A. S. OSBORN.
TROLLEY CATCHER.

No. 528,685.

Patented Nov. 6, 1894.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT S. OSBORN, OF ROCHESTER, NEW YORK.

TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 528,685, dated November 6, 1894.

Application filed May 9, 1894. Serial No. 510,617. (No model.)

To all whom it may concern:

Be it known that I, ALBERT S. OSBORN, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Trolley-Catchers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to means whereby, when the trolley is accidentally detached from the conducting wire, it is automatically drawn down beneath the same so as not to come in contact with the span wires.

The invention consists in the combination and arrangement of parts hereinafter described and embraced in the claims.

In the drawings—Figure 1 is a diagram showing a conducting wire and trolley in elevation, and the controlling apparatus partially in elevation and partially in section. Fig. 2 is a cross section of the spring case in line *xx* of Fig. 1. Fig. 3 is an enlarged elevation of a portion of the controlling apparatus.

A indicates the conducting wire, B the trolley-arm, and C its roller, all of ordinary form.

D is a case secured to the car in any convenient position, and preferably pointing toward the end of the car.

E is a shaft inside the case, extending through the same, and carrying on its outer end a winding head G, preferably in the form of an open fork, as shown; but if desired it may be a solid roller.

H is a coiled spring inside the case, one end attached to the case and the other to the shaft. When the spring is wound up its tendency is, by its unwinding, to give rotary motion to the shaft and winding head.

I is a fixed ratchet on the end of the case, next to the winding head, which ratchet may be cast solid with the case.

K is a detent which engages with the ratchet. It is preferably in the form of a sleeve which slides freely on the shaft between the winding head and case, and is provided at one end with a toothed head *a* that engages with the ratchet.

L is a spiral spring around the shank of the

detent, which tends to force it against the ratchet. The detent is made to rotate with the shaft by means of a pin *b* on the shaft which extends through a slot *c* of the detent.

M is a cord-holder pivoted to the outer end of the shaft E so as to turn up and down, but stayed in its down movement by a stop *d*. The trolley cord N passes loosely through a fork *j* of this cord-holder, and is provided with an enlargement *f* below the fork, of such size that it will not draw through.

P is a rod connecting the detent K with a lug *g* of the cord-holder, by which means when the holder is raised the detent is drawn back from engagement with the ratchet. The cord-holder is located opposite the winding-head, so that the cord can wind on the latter.

The operation is as follows: The spring in the case is first wound up, placing the shaft under tension, and the trolley cord rests in the fork of the holder at the outer end of the shaft. At the same time the detent is in engagement with the ratchet at the end of the case. If, now, the trolley becomes accidentally disengaged from the conducting wire, it is thrown up by the trolley spring *h*. This action causes the enlargement *f* of the cord to strike the fork of the holder M and raise the same, thereby drawing on the connecting rod P and disengaging the detent from the ratchet. The coiled spring in the case then rotates the shaft and winding-head and winds the cord on the winding head, thereby drawing the trolley roller down beneath the conducting wire.

In ordinary trolleys the cord is operated by hand. Sometimes the trolley is disconnected close to a span wire, or at a time when the conductor is distant collecting fares, and when the car is in rapid motion much damage is liable to ensue. This device is self-operating and obviates this difficulty. In re-setting the apparatus the cord is simply drawn up to unwind it, and this action rewinds the spring in the case.

Having described my invention I do not claim simply and broadly a spring actuated winding drum and pawl; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In a trolley catcher, the combination,

with the trolley arm and its operating cord, of a spring-operated shaft, a winding head attached to the shaft, a fixed ratchet, a spring-operated detent which engages with the ratchet,
5 a cord holder with which the cord engages and a connection extending from the cord-holder to the detent, whereby the disengagement of the trolley from the wire draws upon the cord holder, disengages the detent from the ratchet,
10 and causes the cord to wind on the head, as shown and described and for the purpose specified.

2. The combination, with the trolley arm and its operating cord, of a spring-operated
15 shaft, a winding head, a fixed ratchet, a spring-operated detent which engages with the ratchet, a cord-holder arranged opposite the winding head whereby the cord can wind on the winding head, said cord holder being piv-
20 oted to the shaft, and a connection extending from the cord holder to the detent, whereby, when the cord-holder is raised, the detent is

drawn back and disengaged from the ratchet, as specified.

3. The combination, with the trolley arm
25 and its operating cord, of a spring-operated shaft, a winding head of forked form attached thereto, a fixed ratchet, a spring-operated detent sliding on the shaft and engaging with the ratchet, a cord-holder pivoted to the
30 end of the shaft opposite the winding head whereby the cord can wind on the latter, and a connection between the cord-holder and detent whereby the latter is disengaged from the ratchet when the cord holder is raised, as
35 specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

A. S. OSBORN.

Witnesses:

R. F. OSGOOD,
C. R. OSGOOD.