

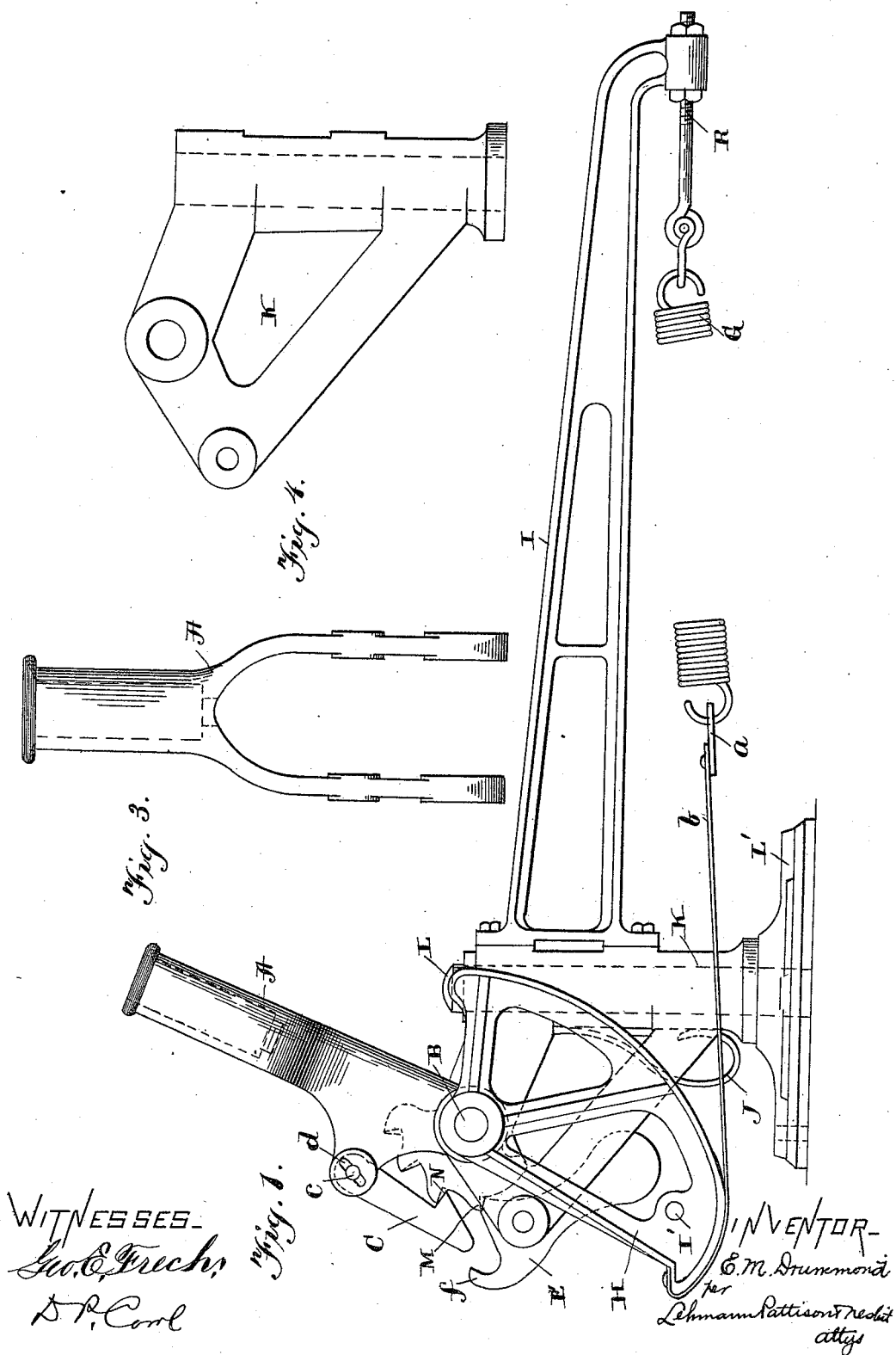
(No Model.)

2 Sheets—Sheet 1.

E. M. DRUMMOND.  
TROLLEY CATCHER.

No. 523,625.

Patented July 24, 1894.



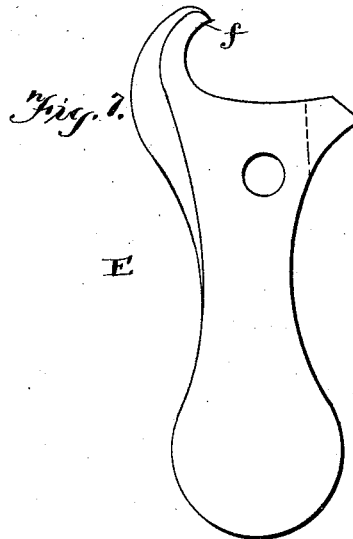
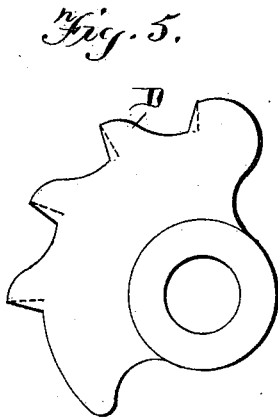
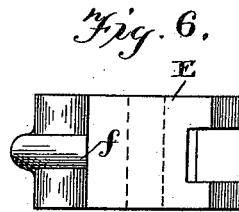
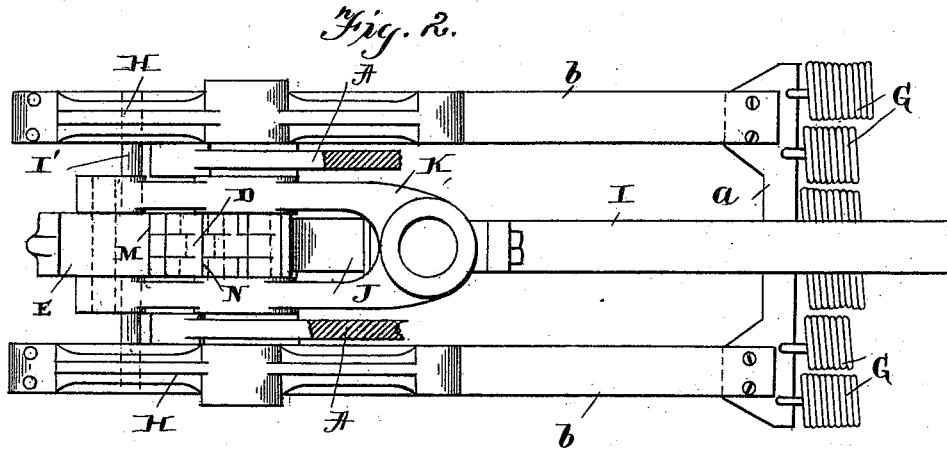
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WITNESSES—  
Geo. E. Trechs  
D. P. Corl

INVENTOR—  
E. M. Drummond  
per  
Lehmann Patterson & Co.  
attys.

# UNITED STATES PATENT OFFICE.

EDWIN M. DRUMMOND, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF  
TO JOSEPH O. HADDOX, OF SAME PLACE.

## TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 523,625, dated July 24, 1894.

Application filed March 3, 1894. Serial No. 502,285. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN M. DRUMMOND, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Trolley-Pole Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in trolley pole supports, and it consists in the construction and arrangement of parts which will be fully described hereinafter and particularly referred to in the claims.

The object of my invention is to provide a trolley pole support so constructed that when the trolley wheel leaves the conductor from any cause, the pole automatically assumes a position out of danger of striking cross or guard wires, and from which assumed position the pole may be set to its original position by means of a rope attached thereto, either from the floor of the car or from the ground; and which construction permits the tension of the supporting springs to be released in the same manner by a cord when the car goes into a barn, thereby lengthening the life of the springs to a great extent.

In the accompanying drawings:—Figure 1 is a side elevation of a trolley support which embodies my invention complete. Fig. 2 is a top plan view of the same, with pole socket omitted. Fig. 3 is a detached front view of the pole socket. Fig. 4 is a detached view of the pivoted portion of the swinging bracket. Fig. 5 is a detached view of the segmental ratchet. Figs. 6 and 7 are top and side views respectively of the pawl E.

L indicates a vertical pivotal pin having a suitable base L' which is attached to the top of the car by bolts or screws. Journaled upon this pin L, is a swinging bracket K, normally extending forward, and to which a rearwardly extending arm I has its forward end rigidly attached by bolts.

As shown in Fig. 2, the forwardly extending portion of the swinging bracket K, consists of two parallel arms, and passing through

these arms is a pivotal pin B, to the ends of which outside of the said parallel arms of the swinging bracket, the cams H are rigidly attached. Between the said parallel arms a segmental ratchet D is rigidly attached.

The pole socket A is provided with parallel arms which are loosely pivoted upon the pin B, between the parallel arms of the swinging bracket and the said cams H. Passing transversely through the lower ends of the cams H is a rod or bar I', which engages a cushion or spring J, in the manner and for the purpose to be fully specified hereinafter, and pivoted between the parallel arms of the swinging bracket K below the pivotal point of the trolley pole socket and cams, is a pawl E, its upper end adapted to engage the segmental ratchet D, in the manner to be presently described, and its lower end weighted by being enlarged, to keep its upper end in engagement with the said ratchet by gravity as will be readily understood.

The rear end of the rearwardly extending arm I is curved downward slightly, and passing through this depending portion of the arm is an adjustable longitudinal screw bolt R, to the forward end of which are attached the springs G, the opposite and forward end of the said springs being attached to a cross bar a, which in turn is connected with the cams H through the medium of suitable straps b.

Pivotaly attached to an adjustable bolt c, moving in a slot d, in the pole socket A, is a pawl C, which also engages and co-operates with the ratchet D, as will be fully specified further on.

The operation of my invention is as follows:—The position of the parts as shown in Fig. 1 is with the trolley wheel in engagement with the conductor, the pawl C in engagement with the tooth N, of the ratchet D, which through the medium of the cams and the springs attached thereto support the pole with the wheel against the conductor, as will be readily conceived, while the pawl E is somewhere below the tooth M of said ratchet to permit the pole and ratchet sufficient play to accommodate itself to the high and low points in the conductor. The tension of the springs is regulated through the medium of

the adjustable bolt R, so that the pole is held upward with any desired degree of tension. Now should the trolley wheel slip from the conductor, the pole immediately approaches a vertical position, which brings pawl C in contact with the hooked end f, of the pawl E, and forces it out of engagement with the teeth of the ratchet D, pawl C being itself forced out at the same time by the action of pawl E, and by contact with the hooked end of the pawl E, the pole is thrown backward. When the pole moves toward a vertical position by the slipping of the trolley wheel from the conductor, the rod I' strikes the spring or other cushion J, cushioning the blow of the tension springs G, and the pawl E, engages tooth N, of the ratchet D, while the pawl C engages the tooth O, thereof. This change of position causes the pole to assume a more nearly horizontal position, which position can be regulated by the adjustable bolt R, as before described. A downward pull upon the rope attached to the trolley pole will cause the pawl E to engage the tooth M of the ratchet wheel, and then by suddenly releasing the pole the ratchet wheel will carry the pole upward sufficiently to cause the pawl C to engage the tooth N of the ratchet, thus placing the pole in its original position. When the car is run into the barn, the tension of the springs can be released by the rope attached to the pole, permitting the ratchet to escape, as will be readily understood. While I have described and shown cams and springs for supporting the ratchet against the pull of the pole, I do not limit myself to this specific construction, for it will be readily conceived that it may be accomplished in other ways without departing from the spirit of my invention, the essential feature of which is the escapement mechanism for the ratchet which is operated through the medium of the pole, or pole socket. The pawl C is shown vertically adjustable, so it can be set to trip the pawl E, when the pole is operating with conductors of different heights, and is adjusted so that when the trolley wheel moves say one foot above the highest point in the line, the pawl E will be tripped and the operation described of dropping the pole below the cross and guard wires be effected.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A trolley pole support comprising a trolley pole or pole socket, an independently movable spring held ratchet segment, a locking pawl therefor, and a connection between the pole or pole socket and the said ratchet which is adapted to trip the said locking pawl.

2. A trolley pole support comprising a movable ratchet, a spring connected therewith, a locking pawl for the said ratchet, a pivoted trolley pole or socket and a pawl carried by the said pole or socket engaging the ratchet for supporting the pole and adapted to engage the locking pawl for tripping it.

3. A trolley pole support comprising a movable ratchet, a spring connected therewith, a locking pawl for the said ratchet, and a vertically adjustable holding pawl carried by the pole engaging the ratchet, and adapted to trip the locking pawl when the pole moves toward a vertical position.

4. A trolley pole support comprising a pivotal pin carrying a ratchet firmly attached thereto, a trolley pole or socket pivotally supported upon said pivotal pin and moving independently thereof, a holding pawl carried by the pole and adapted to engage the ratchet, and a spring connected with the ratchet for holding it against the heft or pull of the pole through the medium of the holding ratchet.

5. A trolley pole support comprising a pivoted pole or pole socket, a spring supporting device for the same, escapement pawls for the said ratchet, and a cushion or spring adapted to arrest the movement of the pole and relieve the supporting springs.

6. A trolley pole support comprising a trolley pole or pole socket, an independently movable spring support for said pole or socket, a movable connection between said support and pole or socket, and a trip adapted to engage and trip said movable connection when the trolley pole moves upward.

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

EDWIN M. DRUMMOND.

Witnesses:

WM. DINGLEY,  
M. ANDERSON.