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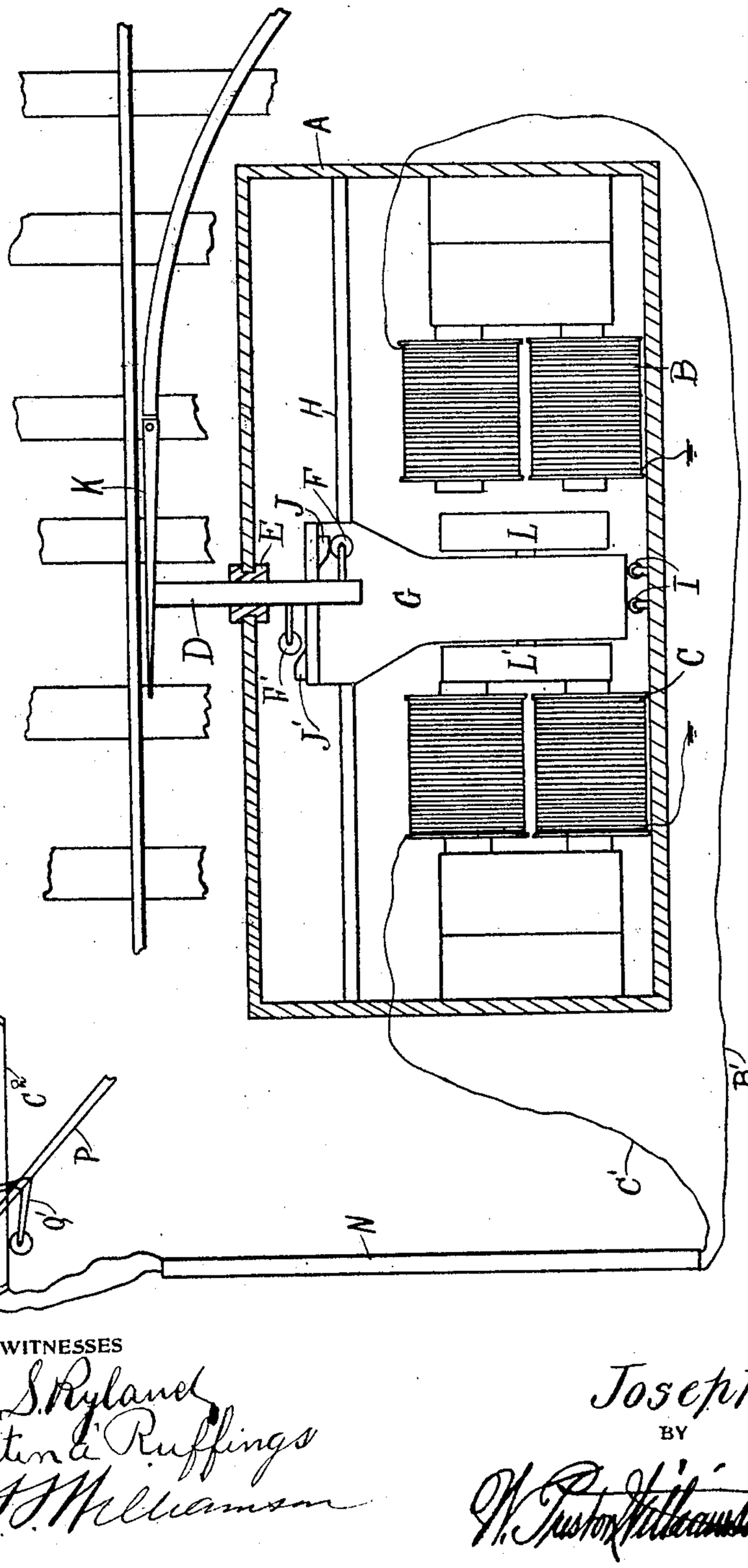
J. NELSON.

AUTOMATIC SWITCH FOR TROLLEY LINES.

APPLICATION FILED AUG. 30, 1907.



WITNESSES

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AUTOMATIC SWITCH FOR TROLLEY-LINES.

No. 887,504. Specification of Letters Patent. Patented May 12, 1908.

Application filed August 30, 1907. Serial No. 390,757.

To all whom it may concern:

Be it known that I, JOSEPH NELSON, a citizen of the United States, residing at Cape May, county of Cape May, and State of New Jersey, have invented a certain new and useful Improvement in Automatic Switches for Trolley-Lines, of which the following is a specification.

My invention relates to a new and useful improvement in automatic switches for trolley lines, and has for its object to provide an exceedingly simple and effective device by which the motorman may set a switch before reaching the same and thus follow either the main line or pass to a branch line without the necessity of stopping the car.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which a section of the casing inclosing the mechanism is shown, the mechanism being in elevation and the trolley and switch wires in diagram.

In carrying out my invention as here embodied, A represents the casing, which may be made in any design or shape, and in this casing is located the electro magnets B and C insulated from the casing.

D represents the operating rod, which is fitted to slide through the bushing E fitted in the casing, and this rod has journaled thereon the rolls F and F′.

G represents the cam frame, which is fitted to slide within the casing, being guided by the rod H and supported by the rolls I. This frame has formed thereon the cams J and J′ so located that when the frame is moved in one direction or the other the cam J will act upon the roll F or the cam J′ upon the roll F′, thus moving the rod D in or out of the casing, as will be readily understood, and as this rod is attached to the switch point K the switch will be opened or closed as the case may be.

L and L′ represent two armatures, which are secured to the frame G and which lie in the magnet fields of the magnets B and C so that when either of these magnets is energized its armature will be drawn thereto and the frame caused to move correspondingly, thus actuating the rod D, as before described.

The wires B′ and C′ each lead from the magnets B and C respectively, pass up through the nearest pole along the track for supporting the trolley wire, such a pole being indicated at N, and are connected with the switch wires B^2 and C^2, arranged parallel with the main trolley wire O, and upon the trolley pole indicated at P, are two short arms Q and Q′, which when the trolley passes along this portion of the wire the small trolleys carried by these short arms also come in contact and travel upon the switch wires B^2 and C^2. The short poles Q and Q′ may be connected by suitable wires with a switch board in reach of the motorman upon the car, so that a current may be sent from a battery carried by the car to either of the short poles Q and Q′, and from thence to one or the other of the switch wires B^2 or C^2, and from thence this current will be lead by the wires B′ or C′ to the magnets B or C, and as before described this will operate the frame G to throw the switch.

From the foregoing description it will be seen that the switch wires B^2 and C^2 being located at a proper distance from the switch, the motorman can throw the switch in either direction before reaching the same, thus obviating the necessity of stopping the car for this purpose.

Having thus fully described my invention, what I claim as new and useful, is—

1. An automatic switch mechanism consisting of a suitable casing, an operating rod attached to the switch point and projecting into said casing, two rolls carried by the rod, a frame adapted to move at right angles to the rod, two cams located upon said frame for actuating the rolls to effect the movements of the rod, two armatures carried by the frame, two magnets in the field of which said armatures are located and means for energizing the magnets, as specified.

2. The herein described combination of a switch point, an operating rod attached thereto, a casing, a bushing fitted in said casing through which the operating rod passes, two rolls carried by the operating rod, a frame, two cams carried by said frame for actuating the rolls, two armatures secured to the frame, a magnet for each armature,

switch wires located parallel with the main wire of the trolley and wires leading from the magnets to said switch wires, as specified.

3. The herein described combination of a switch point, an operating rod attached thereto, a casing, a bushing fitted in said casing through which the operating rod passes, two rolls carried by the operating rod, a frame, two cams carried by said frame for actuating the rolls, two armatures secured to the frame, a magnet for each armature, switch wires located parallel with the main wire of the trolley, wires leading from the magnets to said switch wires, and two secondary trolleys carried by the main trolley pole for contacting with the switch wires, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOSEPH NELSON.

Witnesses:
B. S. RYLAND,
OCTINA RUFFINGS.