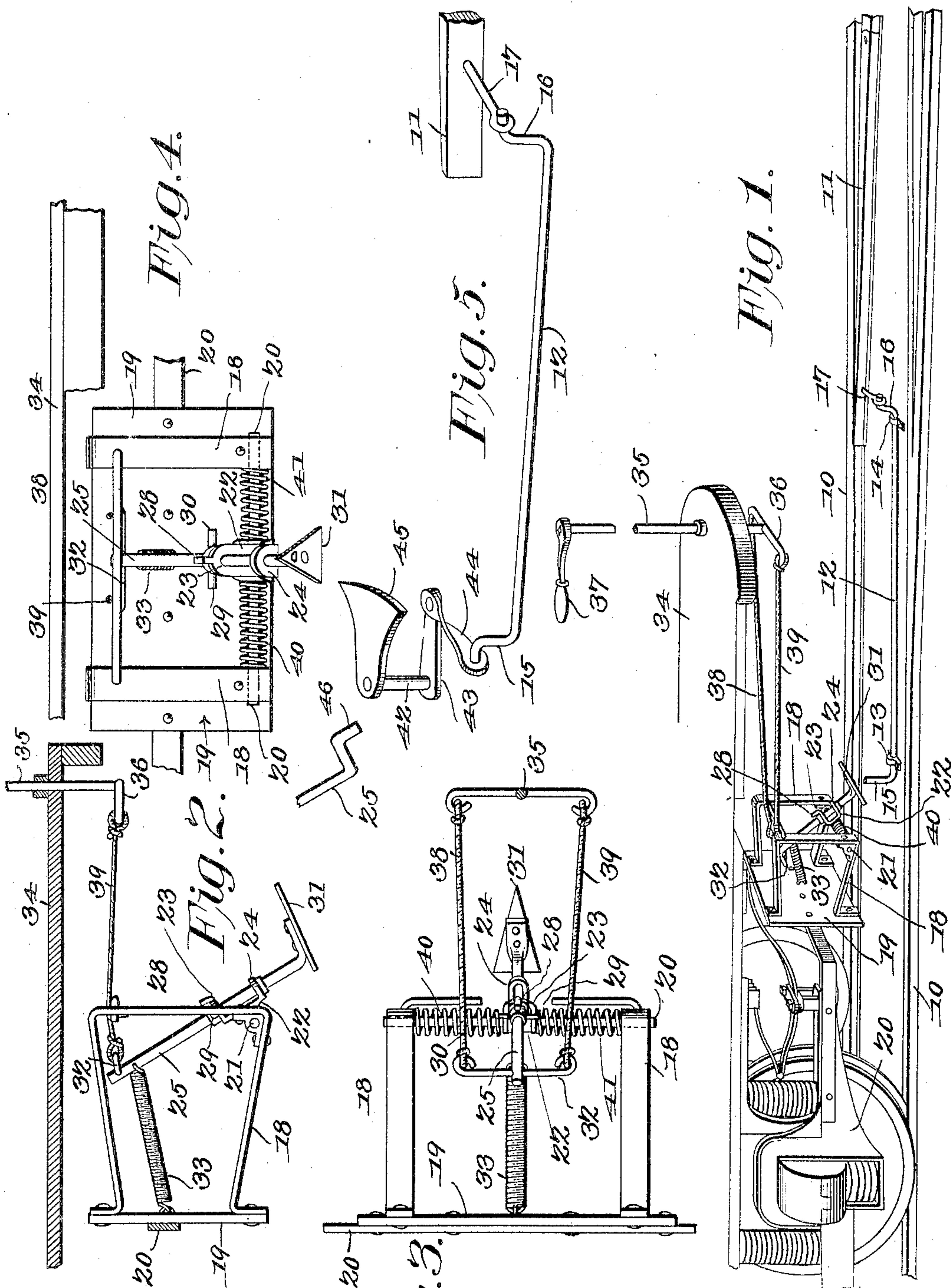


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R. C. WRIGHT.
SWITCH OPERATOR.
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SWITCH-OPERATOR.

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To all whom it may concern:

Be it known that I, REISON C. WRIGHT, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Switch-Operator, of which the following is a specification.

This invention relates to devices for operating the switch-points of railway-tracks, more particularly of street-railway tracks; and it has for its object to provide a simply-constructed and efficient device for the purpose under the control of the motorman or other attendant on the moving car.

With this and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings thus employed, Figure 1 is a perspective view of a portion of a street-car track and of the platform and running-gear of a street-car with the improved devices applied. Fig. 2 is a side elevation, Fig. 3 is a plan view, and Fig. 4 is a front elevation, enlarged, of the portion of the improved device which is attached to the car-trucks. Fig. 5 is a perspective view of a modified form of the portion of the device connected to the switch-point.

In the improved device is comprised two general portions, one portion located within the road-bed of the track and coupled to the switch-point and another portion connected to the car and adapted for operation by the

motorman or other attendant to actuate the switch-point.

The tracks 10 and "switch-point" or "tongue" 11 are of the usual construction, and the point-operating portion of the device consists of a rod 12, disposed longitudinally of the rails and preferably beneath the "tamping" or paving and the ties and mounted for oscillation in bearings 13 14 and with crank-arms 15 16 at the ends.

The crank-arm 15 extends above the surface of the tamping or paving, and the crank-arm 16 is coupled by a link 17 to the free end of the switch-point.

The rod 12 and its crank-arms 15 16 are so disposed relative to the switch-point that when the crank member 15 is inclined at an angle to one side the switch-point will be held open and when inclined to the opposite side the switch-point will be held closed. By this arrangement it is obvious the switch-point may be operated by moving the crank member 15 from side to side of the track.

The portion of the device attached to the car comprises a frame 18, attached to a base member 19, which is in turn connected to the truck-frame 20 of the car. A shaft 21 is mounted for oscillation transversely of the frame 18, and pivoted upon this shaft is a bracket 22, having spaced bearings 23 24 for supporting a bar or standard 25 intermediately of the standard. The standard is rotative in the bearings 23 24, but prevented from longitudinal movement therethrough by spaced collars 26 27. Projecting from the bearing 23 is a stop-lug 28, and extending from opposite sides of the collar 26 are stop-studs 29 30, adapted to alternately engage the stop-lug as the standard is oscillated, and thus limit the movement. Attached to the lower end of the standard 25 is a "foot" 31, preferably in triangular shape, and attached to the upper end of the standard is a transverse arm 32, while a spring 33 is connected to maintain the standard yieldably in withdrawn position. Mounted for rotation in the platform 34 of the car is a vertical standard 35, having a transverse arm 36 on the lower end beneath the platform and an

operating-handle 37 on the upper end convenient to the hand of the motorman. The ends of the transverse arms 32 and 36 are connected, respectively, by draw-cables 38 39. By this arrangement when the car approaches the switch if the "point" is turned in the required direction the motorman makes no movement, as the member 31 being held normally in its elevated position by the action of the spring 33 will pass over the projecting member 15 without engaging it. If, however, the switch-point requires to be turned to the right, the standard 35 will be turned to the right, which will cause the draw-cable 38 to first rotate the standard 25 in its bearings 23 24 to throw the point of the triangular foot 31 to the left and then to at once swing the standard 25 into a vertical position to bring the foot 31 into the path of the projecting member 15, with its pointed forward end at the left side of the same. Then as the car moves forward the foot 31 will throw the rod 12 over and correspondingly move the switch. If, on the other hand, the switch-point is to be moved to the left, the motion of the lever-arm 37 is reversed, as will be obvious.

The rod 12 may be of any desired length, so that the point 11 may be operated at any required distance in advance of the car to insure the certainty of action.

The bracket 22 is slidably disposed upon the shaft 21, and surrounding the shaft between the movable bracket and the frame 18 are springs 40 41, exerting a constant and uniform inward pressure upon the bracket and maintaining it yieldably in its central position on the shaft.

The springs will be strong enough to overcome the resistance of the point 11 under ordinary conditions, but will yield and permit the foot to pass the projection 15 in event of abnormal resistance or clogging of the switch-point, and thus obviate any danger of breakage of the parts. This is an important feature of the invention and adds materially to the value and efficiency of the invention.

In Fig. 5 a modified form of some portions of the structure are shown consisting in connecting a standard 42 to the free end of the crank member 15 by a crank-arm 43 and link 44 and attaching a triangular plate 45 to the upper end of the standard 42, the plate lying horizontally and relatively close to the surface of the tamping or paving. The foot 31 in this modified construction is replaced by a pin 46, extending for engagement with the plate 45 when the standard 25 is depressed and oscillated, as before described.

The modified construction shown in Fig. 5 may be employed under some circumstances, if required, without departing from the principle of the invention, as the operation and results produced are the same in both structures.

The device is simple in construction, certain in its action, easily operated, and may be

applied to any of the various constructions of switch-rails in ordinary use.

Having fully described the invention, what is claimed is—

1. In a switch-operating mechanism, a movable switch-point, means connected for operating said switch-point from in advance thereof, a standard mounted for oscillation and likewise swinging vertically from a car and terminating in a lateral foot member, and means under the control of the occupant of the platform of the car for consecutively oscillating and swinging said standard to cause said foot member to engage said switch-operating means from either side.

2. In a switch-operating mechanism, a movable switch-point, means connected for operating said switch-point from in advance thereof, a standard mounted for oscillation and likewise swinging vertically from a car and terminating in a lateral foot member, means under the control of the occupant of the platform of the car for consecutively oscillating and swinging said standard to cause said foot member to engage said switch-operating means from either side, and springs bearing upon opposite sides of said standard and maintaining the same yieldably from lateral movement.

3. In a switch-operating mechanism, a movable switch-point, a rod mounted for oscillation and extending in advance of the switch-point and with a vertical projection at the advanced end, coupling means between said rod and said switch-point, a standard mounted for oscillation and likewise swinging vertically from a car and terminating in a lateral foot member, and means under the control of the occupant of the platform of the car for consecutively oscillating and swinging said standard to cause said foot member to engage said projection of said rod from either side.

4. In a switch-operating mechanism, a movable switch-point, means connected for operating said switch-point from in advance thereof, a standard mounted for oscillation and likewise swinging vertically from a car and provided at one end with a lateral foot and at the other end with laterally-extending arms, a standard supported for rotation through the platform of the car and provided at one end with an operating-handle and at the other end with laterally-extending arms, and connecting means between the arms of said platform-standard and the arms of said swinging standard.

5. In a switch-operating mechanism, a movable switch-point, means connected for operating said switch-point from in advance thereof, a supporting-frame for connection to a car and having a transverse shaft, a bracket mounted for rotation upon said shaft and having a stop-lug extending therefrom, a standard rotatively supported in said bracket and terminating in a laterally-extending foot

and provided with oppositely-extending studs for alternate engagement by said stop-lug as the standard is oscillated, and means for actuating said standard.

- 5 6. In a switch-operating mechanism, a movable switch-point, means connected for operating said switch-point from in advance thereof, a supporting-frame for connection to a car and having a transverse shaft, a
10 bracket mounted for rotation upon said shaft and slidable thereon, a standard rotatively supported in said bracket and terminating in

a lateral foot, springs bearing against said bracket from opposite sides for maintaining the same yieldably in position upon said shaft, 15 and means for actuating said standard.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

REISON C. WRIGHT.

Witnesses:

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R. J. VERNER.