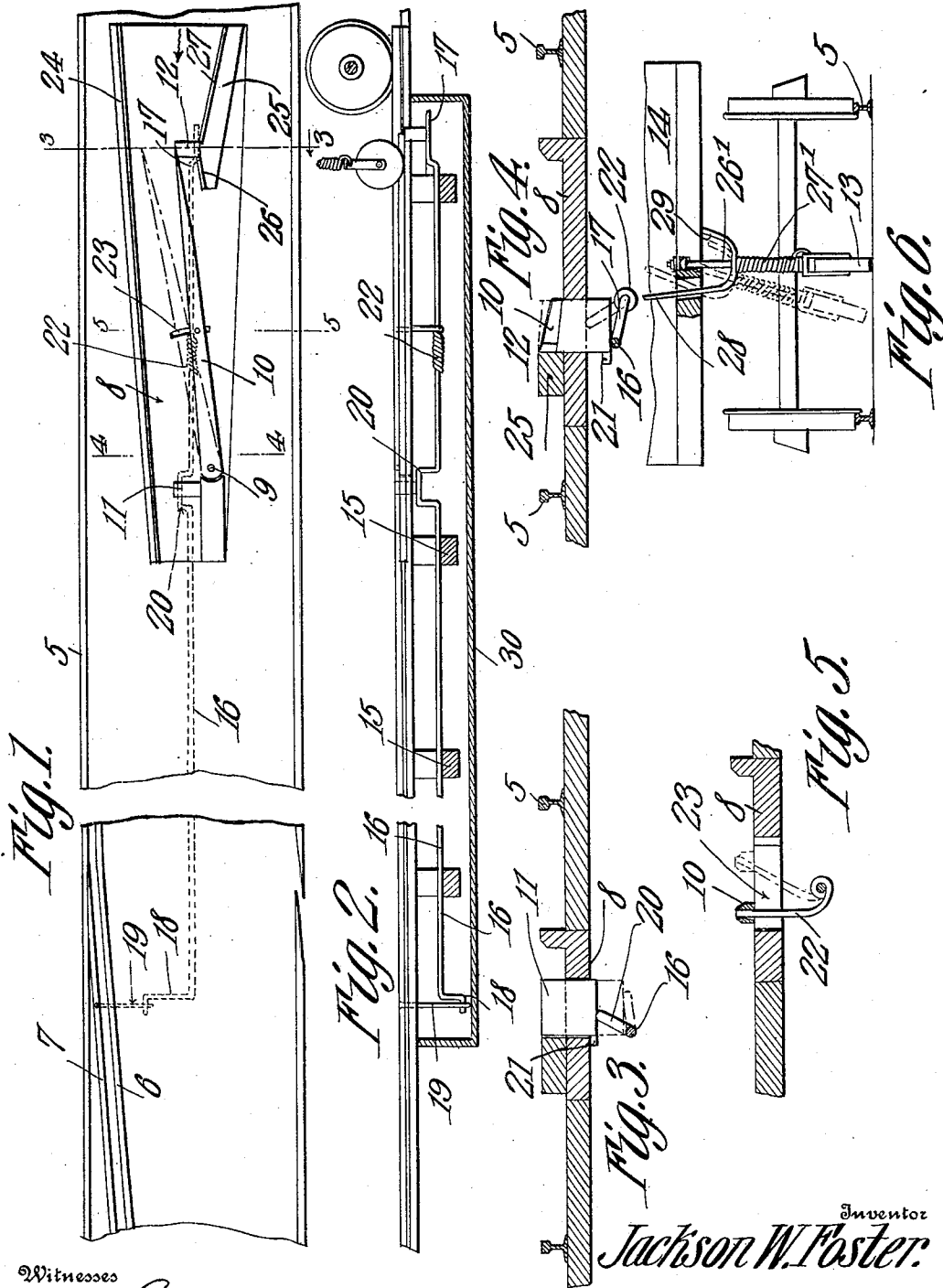


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RAILROAD SWITCH.
APPLICATION FILED SEPT. 25, 1908.

935,899.

Patented Oct. 5, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

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RAILROAD-SWITCH.

935,899.

Specification of Letters Patent.

Patented Oct. 5, 1909.

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To all whom it may concern:

Be it known that I, JACKSON W. FOSTER, a citizen of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented a new and useful Railroad-Switch, of which the following is a specification.

This invention relates to switch operating mechanism for street rail-ways and the like and has for its object to provide means operable by a passing car for effecting, automatically, the movement of the switch to permit the passage of a car from the main track onto a siding.

A further object is to provide a switch operating device including depressible track pieces operatively connected with the switch point and actuated by a wheel or tappet carried by the car to effect the movement of said switch.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification:—Figure 1 is a top plan view of a switch operating device constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view taken on the line 4—4 of Fig. 1. Fig. 4 is a similar view taken on the line 3—3 of Fig. 1. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1. Fig. 6 is a front elevation of a portion of a car showing the manner of mounting the wheel or tappet in position thereon.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The switch operating mechanism forming the subject matter of the present invention may be used in connection with street rail-ways, tram-ways, electric rail-ways and the like and by way of illustration is shown in connection with a street rail-way in which 5 designates the main rails, 6 one of the rails of the siding and 7 the switch point. Arranged between the main rails 5 in advance

of the switch point 7 is a bed plate 8 on which is pivotally mounted at 9 a tappet deflecting device or tongue 10. Formed in the bed plate 8 at the opposite ends of the member 10 are vertical apertures in which 60 are mounted depressible track pieces 11 and 12, said track pieces being actuated by a roller or tappet 13 on the car 14 to effect the opening and closing movement of the switch. Journalled in suitable cross ties 15 65 is a longitudinally disposed operating shaft 16 having its opposite ends provided with crank arms 17 and 18, one of which is disposed beneath the track piece 12, while the other is operatively connected through the 70 medium of a link 19 with the switch point 7. A crank 20 is also formed in the intermediate portion of the operating shaft 16 and arranged to bear against the depressible track piece 11 so that when one of said track 75 pieces is depressed the switch will be moved to open position, and when the other track piece is depressed the switch will be moved to closed position. The depressible track pieces 11 and 12 are so arranged as normally 80 to bear against and rest upon the crank arms 17 and 20, the upward vertical movement of said track pieces being limited by suitable pins or lugs 21 extending laterally from the track pieces and arranged to bear against 85 the base of the bed piece, as best shown in Fig. 4 of the drawings.

Coiled around the shaft 16 between the crank arms 17 and 20 is a spring 22, the free end of which is extended vertically through 90 a segmental slot or recess 23 formed in the bed plate for attachment to the pivoted tongue or lever 10, whereby when either track piece is actuated the shaft 16 will move the pivoted tongue laterally over the 95 upper surface of the bed plate.

The opposite longitudinal edges of the bed plate 8 are preferably converged in the direction of the switch point 7, while one of said edges is provided with a correspond- 100 ingly inclined stationary guide 24 against which the roller 13 bears for guiding said roller to the depressible track device 11. A relatively short stationary guide 25 is also secured to the bed plate 8 in spaced rela- 105 tion to the guide 24, the guide 25 being provided with inclined faces 26 and 27 preferably disposed at an angle to each other for directing the wheel or tappet 13 on one side of the pivoted tongue when the car is 110

traveling in the direction of the switch and onto the siding.

Attention is here called to the fact that the free or reduced end of the tongue 10 is long enough to slightly overlap the depressible track piece 12 when the tongue is in the position shown in full lines in Fig. 1 of the drawing so as to assist in directing the wheel or tappet 13 to one side of the tongue and thus avoid contact with the track device 11 when the car is to pass onto the siding. The tappet or roller 13 of the car operating device is pivotally suspended from the platform of the car and is preferably swiveled on a rod 26' so as to permit slight lateral or tilting movement of the roller 13, there being a spring 27' coiled around the rod 26 and operatively connected with the supporting bracket of the roller for normally and yieldably supporting the wheel in alinement with the longitudinal axis of the car. Secured to the rod 26' in any suitable manner is a hand operated lever 28, the free end of which extends upwardly through a slot or aperture in the platform and in convenient position for engagement by the motorman or driver of the car, there being a relatively short brace or arm 29 extending laterally and upwardly from the rod for engagement with the lower surface of the platform of the car so as to prevent tilting movement of the rod 26 and wheel 13 in one direction but permitting tilting movement of the same in the opposite direction, as indicated by dotted lines in Fig. 6 of the drawing.

The switch being in closed position the wheel or roller 13 of a car traveling in the direction indicated by the arrow in Fig. 1 of the drawing will be guided by the stationary member 24 to the track piece 11 and depress the same thus causing the latter to bear against the crank arm 20 and partially rotate the shaft 16 to effect the opening of the switch so as to permit the car to travel on the main line. The roller of a car traveling in the same direction and desiring to go onto the siding will engage and depress the track device 12 thus moving the switch to closed position and causing the tongue 10 to bear against the roller and deflect the same laterally so as to prevent said roller from coming in contact with the track device 11.

The operating shaft and its associated parts are preferably housed within a suitable casing 30 so as to protect the same from dirt, gravel and other foreign matter, while the bed plate 8 is preferably disposed flush with the upper surface of the ground between the main rails 5 so as to offer very little obstruction to the passage of wagons and other vehicles.

While I have shown, and described the preferred form of car operating device it

is obvious that this form may be dispensed with, and any other suitable device substituted for actuating the track devices without departing from the spirit of the invention.

Having thus described the invention what is claimed is:—

1. In a switch operating device, the combination with the main rails, siding and switch point, of depressible track devices, a connection between the track devices and switch point, and a tappet deflecting device pivotally mounted between the track devices, said depressible track devices being actuated by a passing car to effect the opening and closing of the switch point.

2. In a switch operating device, the combination with the main rails, siding and switch point, of a crank shaft operatively connected with the switch point, depressible track devices operatively connected with the crank shaft and actuated by a passing train to effect the opening and closing movement of the switch point, and a tappet deflecting device pivotally mounted between the track devices.

3. In a switch operating device, the combination with the main rails, siding and switch point, of a tappet deflecting device pivotally mounted between the main rails, a crank shaft having one end thereof operatively connected with the switch point and its opposite end connected with the tappet deflecting device, and track devices arranged at the opposite ends of the tappet deflecting device and actuated by a passing car to operate said crank shaft, thereby to move the switch to open and closed positions.

4. In a switch operating device, the combination with the main rails, siding and switch point, of a bed piece arranged between the main rails in advance of the switch point, a tappet deflecting device pivotally mounted for lateral movement on the bed piece, a crank shaft having one end thereof pivotally connected with the switch point and its opposite end operatively connected with the tappet deflecting device, and track devices operable by a passing train and adapted to actuate the crank shaft to effect the opening and closing movement of the switch.

5. In a switch operating device, the combination with the main rails, siding and switch point, of a bed plate arranged between the main rails and having spaced apertures formed therein, a tappet deflecting device pivotally mounted for lateral movement on said bed plate, a crank shaft mounted for oscillation beneath the bed plate and having one end thereof pivotally connected with the switch point and its opposite end connected with the free end of the tappet deflecting device, and track devices mounted for vertical movement in the aper-

tures of the bed plate and arranged to bear against the crank shaft, said track devices being operable by a passing car to effect the opening and closing movement of the switch.

5 6. In a switch operating device, the combination with the main rails, siding and switch point, of a bed plate arranged between the main rails and having converging guides of different lengths secured to the opposite longitudinal edge thereof, a tappet
10 deflecting device pivotally mounted on the bed plate, a crank shaft having one end thereof pivotally connected with the switch point and its opposite end operatively connected with the tappet deflecting device, and
15 depressible track devices mounted for vertical movement in the bed plate and actuated by a passing car to operate the crank shaft, thereby to effect the opening and closing
20 movement of the switch.

7. In a switch operating device, the combination with the main rails, siding and switch point, of a bed piece arranged between the main rails and having spaced
25 apertures formed therein, a tappet deflecting device pivotally mounted for lateral movement on the upper surface of the bed plate, a crank shaft having one end thereof operatively connected with the switch point, a
30 spring coiled around the opposite end of the crank shaft and having its free end extended through a segmental slot in the bed plate for connection with the free end of the tappet

deflecting device, track devices slidably mounted in the apertures of the bed plate and actuated by a passing car to effect the opening and closing movement of the switch, and stop pins secured to the track device and arranged to bear against the base of the bed plate for limiting the upward movement of
40 said track devices.

8. In a switch operating device, the combination with the main rails, siding and switch point, of a bed plate arranged between the main rails, a tappet deflecting
45 device pivotally mounted on the bed plate, depressible track devices disposed at the opposite ends of the tappet deflecting device, a crank shaft having one terminal thereof connected with the switch point and its opposite
50 terminal provided with a crank arm arranged beneath one of the track devices, said shaft being provided with an intermediate crank arm arranged beneath the other track
55 device, and a spring having one end thereof coiled around the shaft and its opposite end passing through a slot in the bed plate for connection with the tappet deflecting device.

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

JACKSON W. FOSTER.

Witnesses:

ABBY WILSON,
CHAS. G. WILSON.