No. 826,774. PATENTED JULY 24, 1906.

C. W. FAITOUTE.

STREET RAILWAY SWITCH.

APPLICATION FILED JAN. 25, 1905.

2 SHEETS—SHEET 1.

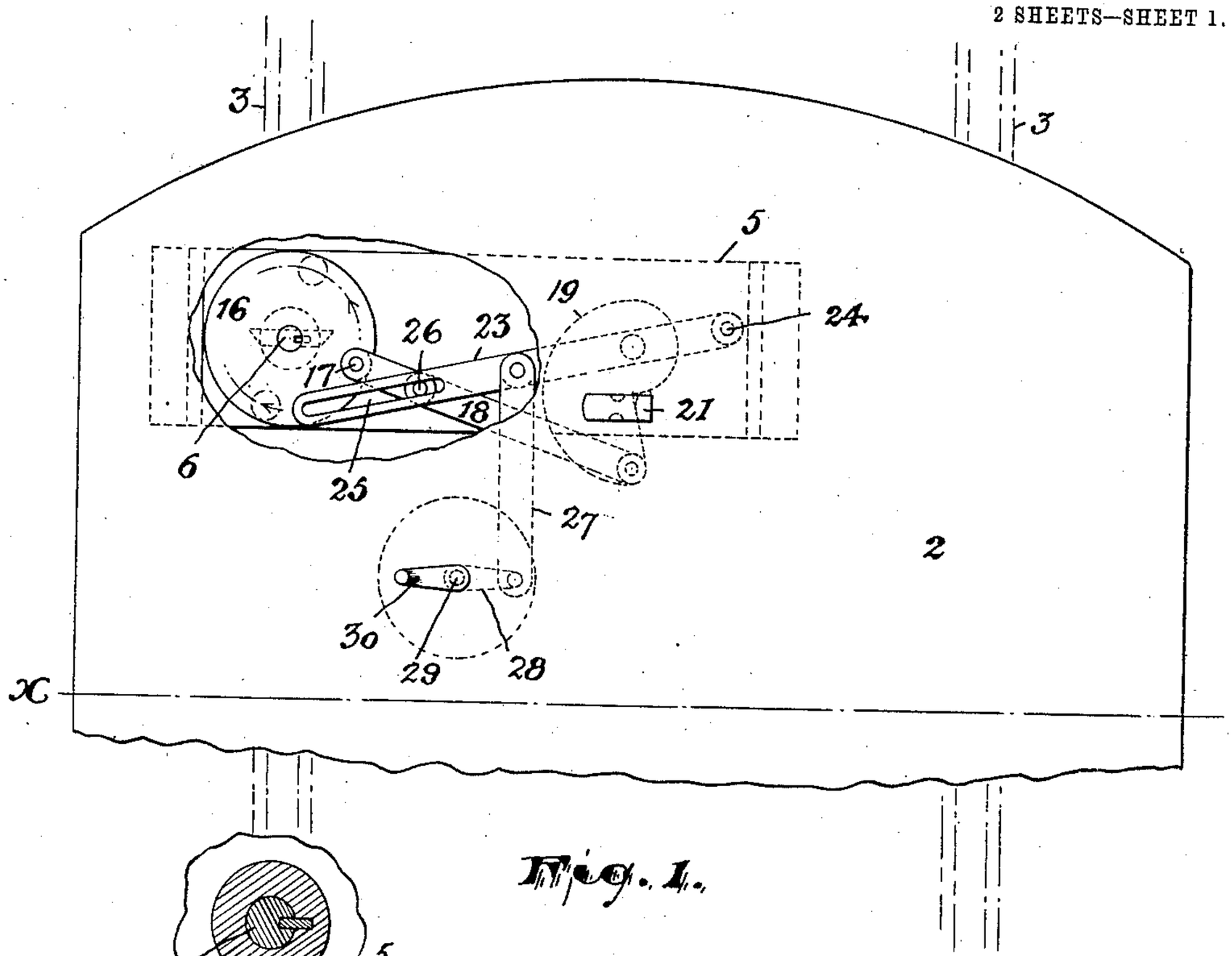

Fig. 1.

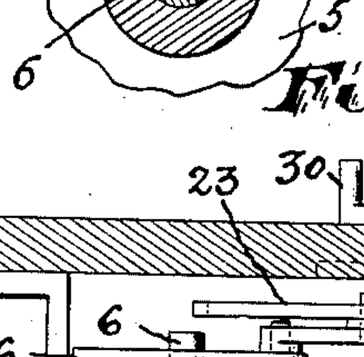

Fig. 3.

Fig. 2.

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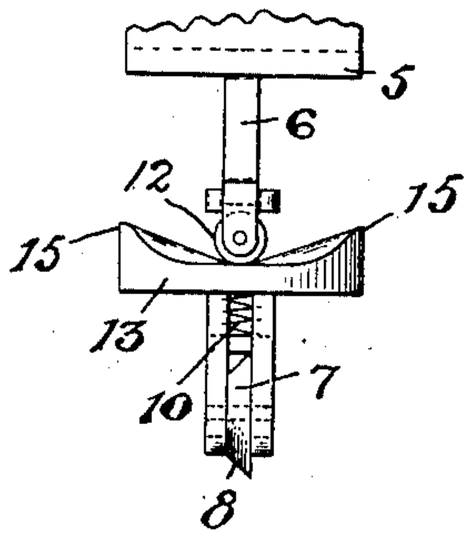
2 SHEETS—SHEET 2.

Fig. 4.



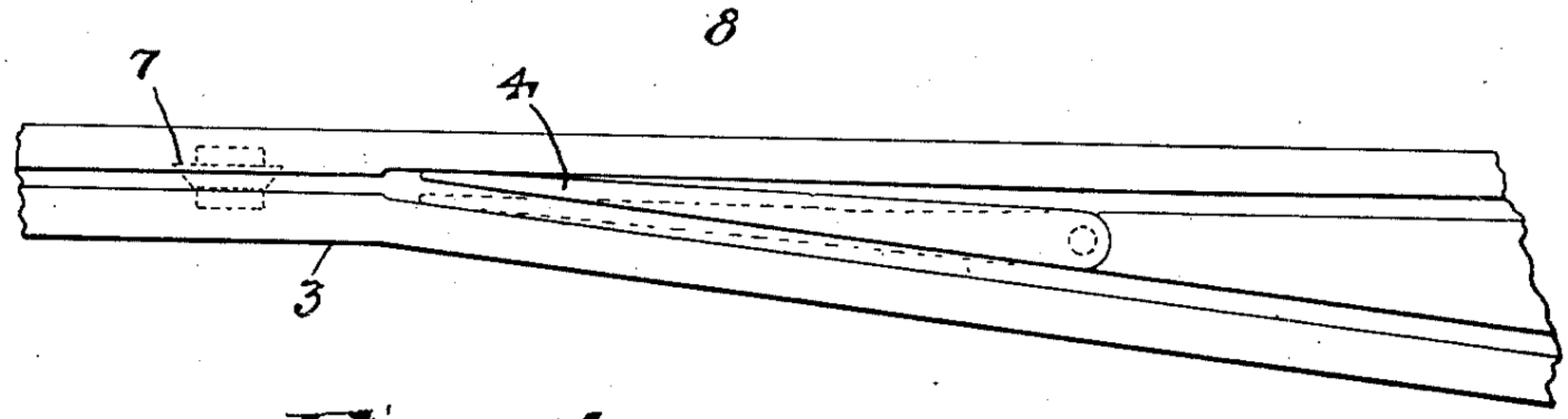


Fig. 5.

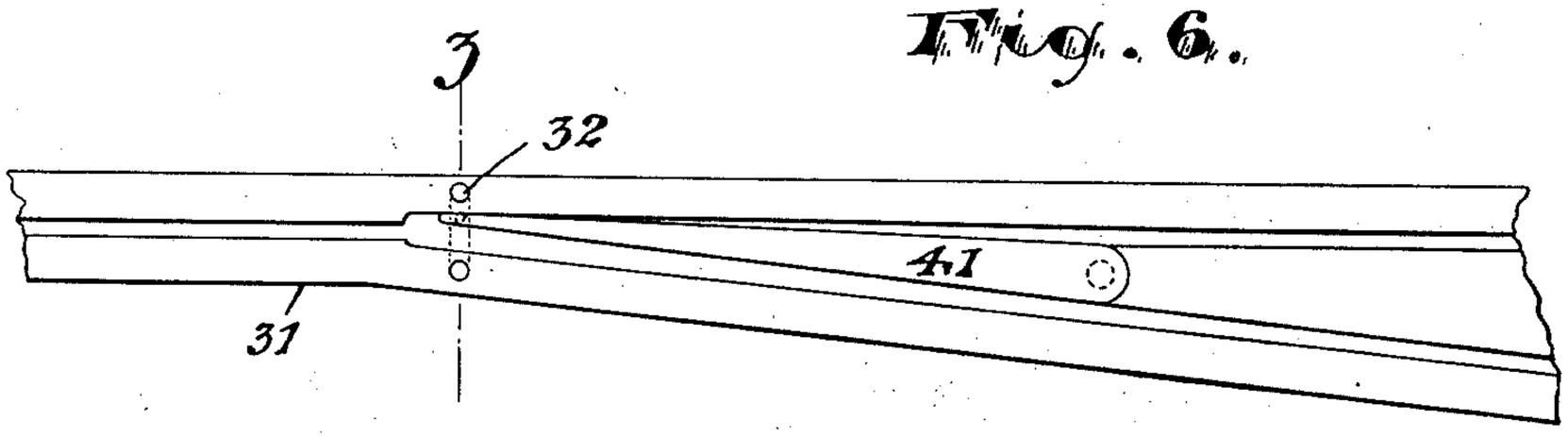


Fig. 6.

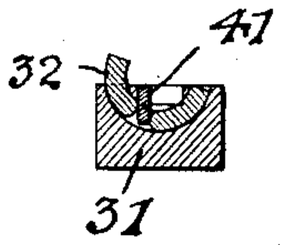


Fig. 7.

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CHARLES W. FAITOUTE, OF SUMMIT, NEW JERSEY.

STREET-RAILWAY SWITCH.

No. 826,774. Specification of Letters Patent. Patented July 24, 1906.

Application filed January 25, 1905. Serial No. 242,670.

To all whom it may concern:

Be it known that I, CHARLES W. FAITOUTE, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented a new and useful Street-Railway Switch, of which the following is a specification.

The objects of this invention are to provide for street-railways a switch-operating device which can be operated by the motorman from the car to throw the switch as it is reached, to thus avoid the inconvenience of leaving the car or the expense of a man stationed at the switch; to obtain for this purpose a simple and cheap construction which will not be liable to get out of order; to secure such a device which can be stationed entirely upon the car, and to obtain other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved street-railway-switch-operating device and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is plan of a portion of the car-platform broken away and supporting at its under side the working parts of my invention. Fig. 2 is a vertical section of the same, taken at line *x*, Fig. 1, and showing the car-track rails also in section. Fig. 3 is a detail section upon line *y*, Fig. 2, looking in the direction indicated by the arrow. Fig. 4 is a side elevation of a certain plunger and its cam-support, taken from a viewpoint at right angles to that in Fig. 2. Fig. 5 is a plan of a rail with its switch-point about to be engaged by the throwing means, which is shown dotted. Fig. 6 illustrates a modified construction of switch-point and manner of throwing the same; and Fig. 7 is a cross-section of the same upon line *z*, Fig. 6.

In said drawings, 2 indicates the floor or platform of a car, and 3 3 the rails of the track, said rails being of the usual construction with a switch point or tongue 4 where the track branches. Upon the under side of the said platform 2 is a supporting frame or bracket 5, and in said frame is mounted a plunger 6, which carries at its lower end a member adapted to engage the rail. Preferably the said member is a wheel 7, with a beveled or inclined edge 8, and which edge is adapted to wedge between the switch-tongue and the body portion of the rail to throw the switch. To this end the lower end of the plunger carries a sliding block 9, normally held downward by a spring 10, so that as the wheel 7 runs along the track it will lower into the space in which the switch-tongue swings. Obviously the said wheel 7 could be a fixed shoe with a beveled edge.

According as the switch-tongue is to be thrown toward the right or toward the left to enable a car to take its proper course the plunger 6 must be rotated through a half-circle, so as to bring its beveled wheel 7 into proper position to operate the switch. I have therefore provided upon the under part of the supporting-bracket 5 an extension 11, which carries at two opposite sides of the plunger rollers or wheels 12, adapted to engage a broad circular cam-plate 13, fixed upon the plunger. Normally the plunger stands with the low points of this cam-plate engaging the said wheels 12, so that the plunger is held in elevated position by means of a spring 14 within the supporting-frame extension 11. The wheel 7 in this position of the plunger lies transversely of the rail and needs to be swung only a quarter-turn in one direction or the other to bring it into position to engage the switch-tongue. This swinging also forces the elevated points 15 of the cam-plate 13 beneath the friction-wheels or rollers 12, and thus presses the plunger downward into engagement with the track at the same time that it is turned. For thus rotating the plunger a crank-disk 16 is applied to its upper end having a pin 17, which receives one end of a link 18, which at its other end is pivoted to a switch-throwing lever 19, the last said lever being adapted to be thrown by engagement therewith of the beveled surface 20 of a vertical foot-plunger 21, mounted in the car-floor and having grooves 22 at its sides to guide the same. Normally the link 18 lies in a line which when extended would pass through the center of the crank-disk 16, and is thus on a dead-center, occupying this position when the member or wheel 7 at the foot of the plunger lies transversely of the rail.

To throw the link 18 toward one side or the other, according as it is desired to operate the switch-tongue, a lever 23, pivoted, as at 24, upon the car-bottom, engages at its opposite slotted end 25 a pin 26 upon the link 18.

This lever 23 is connected by a link 27 with one arm 28 of a shaft 29, which extends up through the car-bottom and is provided with a foot-crank 30. The motorman has therefore only to kick the crank 30 in one direction or the other, according to the way he wants to throw the switch, and then step on the foot-plunger 21, when, as will be understood, the parts will operate, as above described.

The torsional tension of the spring 14 may be utilized to return the parts to normal position, since the normal tendency is for the wheels 12 to stand at the lowest points of the cam-plate 13.

By securing a tilting piece 32 fast to the switch-point 41, as shown in Figs. 6 and 7, and fitting the same in a seat of the rail 31, so that one end or the other is bound to project, a flat-tread wheel could be employed upon the plunger 6 of the car to engage said tilting piece and throw the switch-tongue, as will be understood.

Having thus described the invention, what I claim as new is—

1. The combination with the car, a supporting frame or bracket, a plunger arranged in said frame, a wheel with a beveled edge arranged on said plunger to engage the switch-tongue, a cam-plate having high and low points on its upper surface, a foot-crank and means for automatically holding said cam-plate and its plunger normally upward against the frame and the wheel in transverse relation to the switch-tongue and means for turning the plunger and its cam-plate to bring the high points of the cam-plate into engagement with the frame to depress the plunger and bring the wheel into approximately parallel relation to the switch to shift the same in one direction or the other.

2. The improved switch mechanism herein described, comprising a supporting-frame having oppositely-disposed antifriction-wheels, a plunger and means for turning the same pivotally, a wheel on said plunger to engage the switch, a cam-plate, also on said plunger, having opposite high and low points, the high points being opposite one another and the low points being correspondingly opposite one another, and means for pressing the cam-plate upwardly against the antifriction-wheels of the supporting-frame, substantially as set forth.

3. In a switch-operating device, a supporting-bracket adapted to depend from a car, a vertical plunger mounted in said bracket, friction-wheels upon said bracket, a horizontally-disposed cam-plate upon said plunger adapted to engage said wheels, a member at the bottom of the plunger for engaging a switch-point to throw the same, means for turning said plunger and means for returning the plunger to normal or idle position.

4. In a switch-operating device, a plunger depending from the car and adapted when rotated to engage a switch-point to throw the same, a lever linked eccentrically to the top of said plunger, and a foot-plunger mounted in the car-floor and having a beveled edge adapted to engage said lever to swing the same.

5. In a switch-operating device, a plunger depending from the car and adapted when rotated to engage a switch-point to throw the same, a lever linked eccentrically to the top of said plunger, said link lying normally in a line which extended would pass through the center of the plunger, a foot-plunger mounted in the car-floor and having a beveled edge adapted to engage said lever to swing the same, and an auxiliary crank connected to said link to throw the same off its dead-center.

In testimony of which invention I hereunto set my hand.

CHARLES W. FAITOUTE.

Witnesses:
C. WILLIAM FAITOUTE,
MINNIE B. FAITOUTE.