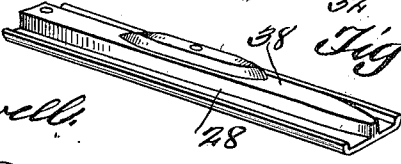
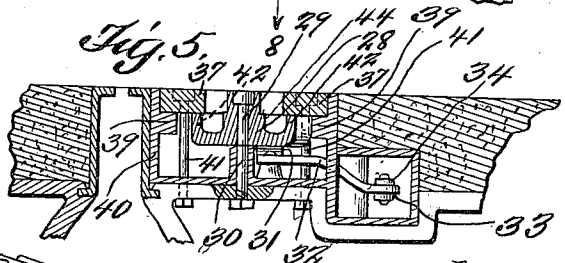
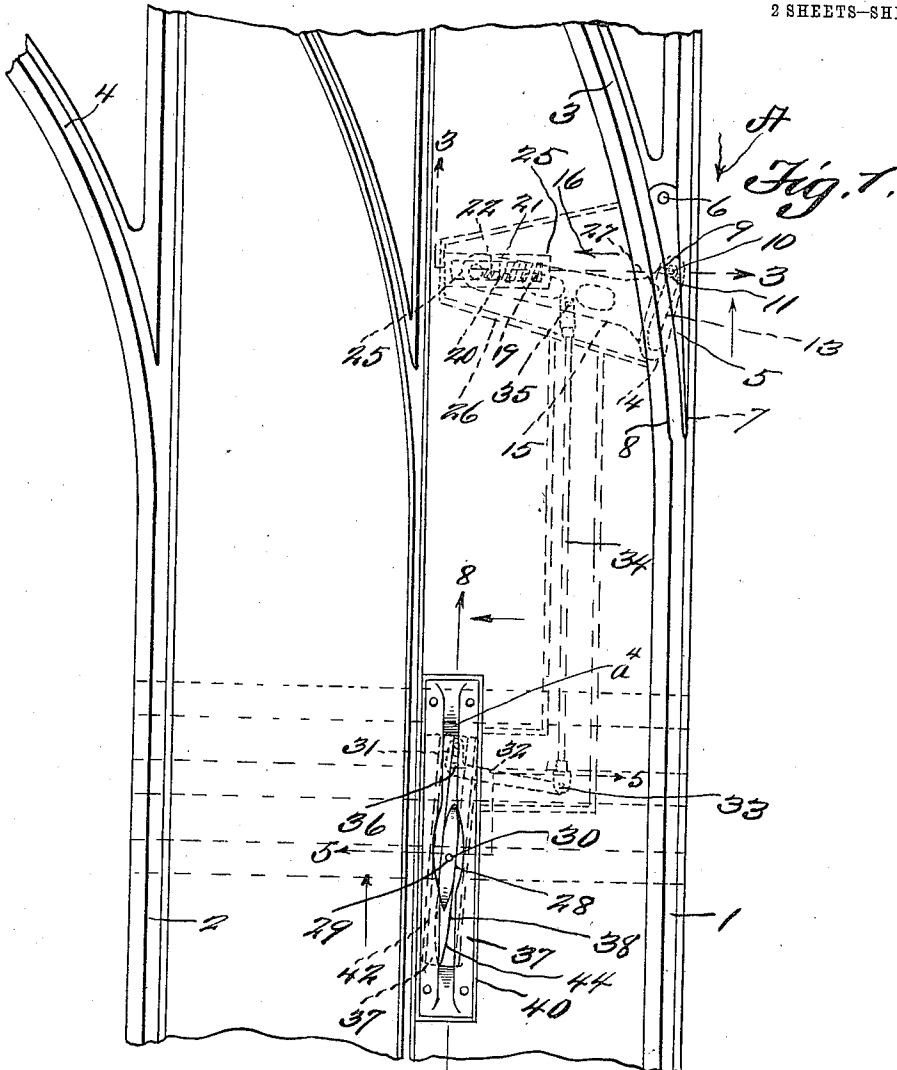


J. FUNDERBURG.
RAILWAY SWITCH.
APPLICATION FILED MAR. 22, 1911.

1,006,743.

Patented Oct. 24, 1911.

2 SHEETS—SHEET 1.



Inventor

Jesse Funderburg,

Witnesses

R. H. Powell.
R. C. Coit

By

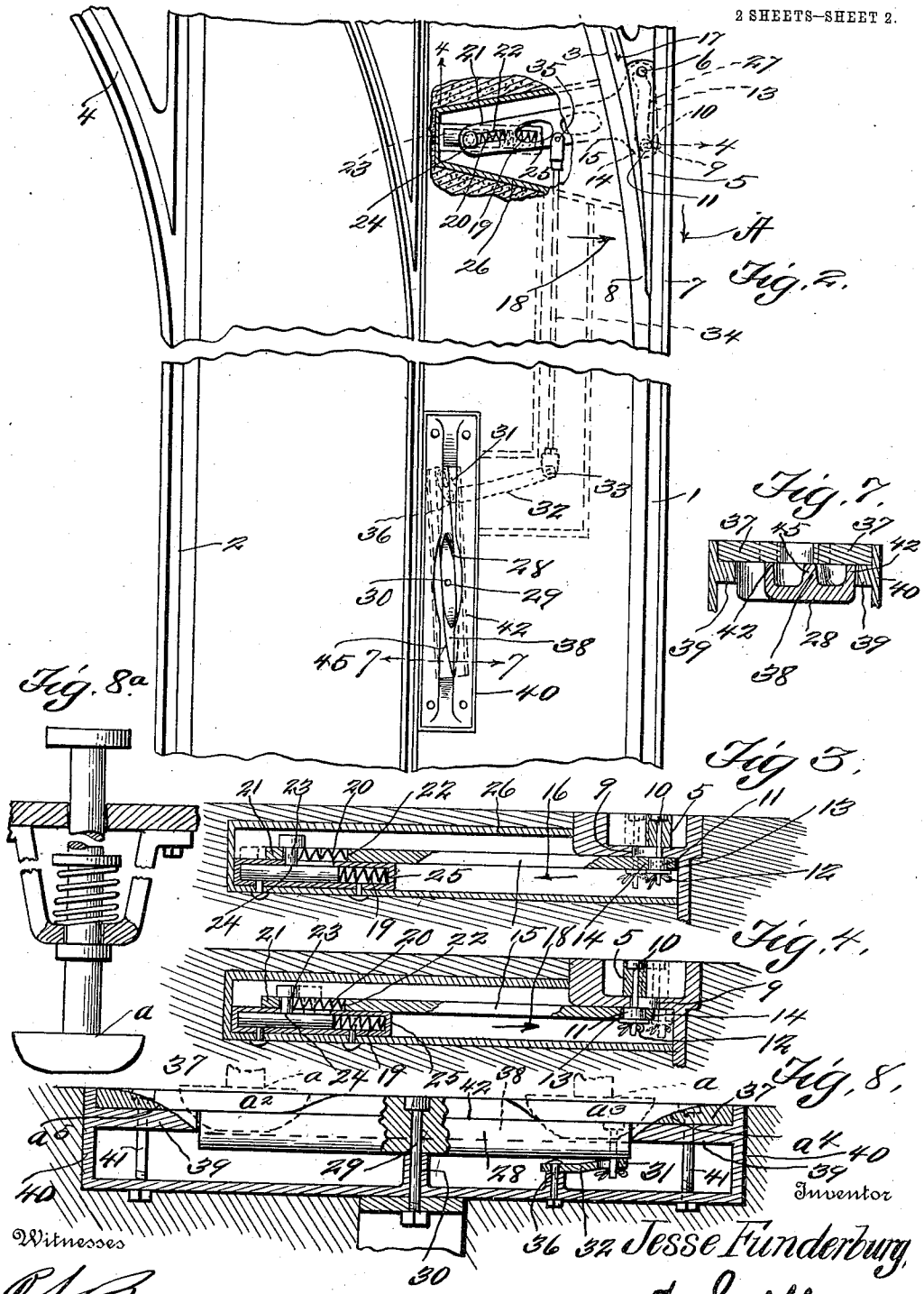
D. Swift

Attorney

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Witnesses
R. H. Fowler
R. bot

Jesse Funderburg
Inventor
D. Swift
Attorney

UNITED STATES PATENT OFFICE.

JESSE FUNDERBURG, OF PIQUA, OHIO.

RAILWAY-SWITCH.

1,006,743.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed March 22, 1911. Serial No. 616,246.

To all whom it may concern:

Be it known that I, JESSE FUNDERBURG, a citizen of the United States, residing at Piqua, in the county of Miami and State of Ohio, have invented a new and useful Railway-Switch; 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 appertains to make and use the same.

This invention pertains to a new and useful street railway switch.

The invention in its broadest scope aims as its primary object to provide an improved switch of this design adapted to be operated by a member or shoe carried by the car.

A further object of the invention is to provide a switch, which will return automatically to the position assumed, after the car going in the direction of the arrow A has passed, if the switch is in the position shown in Figures 1 and 2, prior to the car passing the switch going in the direction of the arrow A.

A further object of the invention is to provide an oscillating member arranged below a slot having a raised portion extending into the slot, adapted to be operated by a member or shoe on the car, for actuating the switch.

In the drawings, there is only one form of the present invention disclosed, but in practical fields this form may require alterations to which the applicant is entitled, provided the alterations are comprehended by the appended claims.

Further features and combination of parts will hereinafter appear, as the minor details of the invention are more specifically set forth.

In the drawings:—Fig. 1 is a plan view of a portion of a street railway, showing the improved switch as applied thereto, the same being constructed in accordance with the invention. Fig. 2 is a view similar to Fig. 1 showing the switch point in a position opposite to that shown in Fig. 1. Fig. 3 is a sectional view on line 3—3 of Fig. 1, showing a dotted position of the switch point, in order to show the compression of a spring for returning the switch point to the position shown in full lines. Fig. 4 is a sectional view on line 4—4 of Fig. 2 illustrating a dotted position

of the switch point, so as to show the compression of another spring for returning the switch point to the position shown in full lines. Fig. 5 is a sectional view on line 5—5 of Fig. 1. Fig. 6 is a perspective view of the oscillating member for operating the bell crank. Fig. 7 is a sectional view on line 7—7 of Fig. 2, taken at one end of the oscillating member, in order to show that its upper face shears against the under faces of the plates 37. Fig. 8 is a sectional view on line 8—8 of Fig. 1, showing the oscillating member or tongue in edge view, and further illustrating how the same fits between the ends of the flanges of the boxing 40. Fig. 8^a is a view partly in section and partly in elevation, showing the spring retained shoe adapted to be carried by a car, and designed to be depressed down between the sides of the plates 37, so as to properly actuate the oscillating member or tongue. When this shoe is depressed, the lower edge thereof extends below the plates 37, thus permitting the shoe to fully engage the oscillating member or tongue.

It is to be understood that Figs. 8 and 8^a are to be read in conjunction with one another. For instance, Fig. 8^a shows the shoe *a* in its proper position before being depressed. The character *a*² indicates the position of the shoe after having been moved forward and then depressed. The character *a*³ designates the advanced position of the shoe, after having traveled the full length of the space between the two plates 37, and is about to ascend the incline *a*⁴, of the flanges of the boxing 40, and the ends of the plates 37. When the shoe *a* has reached the position indicated at *a*³, the oscillating member or tongue has been fully thrown over in the position shown in Fig. 2.

Referring more especially to the drawings, 1 and 2 designate the main rails, while 3 and 4 denote the switch rails. The switch rails merge into the main rail, as shown in Figs. 1 and 2. The main rail 1 has a switch point 5 which is pivotally mounted upon the pin 6, and is adapted to have a limited movement to the raised side portions 7 and 8 of the rail 1.

Projecting downwardly from the switch point 5 and through a slot 9 of the rail is a headed pin 10, on the lower end of which a roller 11 is journaled, the same being held in position by means of a cotter

pin or the like 12. This roller 11 is arranged in a slot 13 which is formed transversely and at an enlarged end 14 of the lever or bar 15. The walls of the slot 13 at each end thereof are substantially parallel with the length of the rail 1, so that the bar 15 will properly move in the direction of the arrow 16, when the switch point 5 is moved in the same direction, by a car passing in the direction of the arrow A. In Fig. 2 it will be seen that the roller 11 is in the other end of the slot 13. When the roller 11 is in the position shown in Fig. 3, and a car is moving in the direction of the arrow 17 (Fig. 2) on the switch rail 3, the switch point will be moved in the direction of the arrow 18, thus moving the bar or lever 15 in the same direction. When the bar 15 is moved in the directions indicated by the arrows 16 and 18, first one and then the other of the springs 19 and 20 are compressed, thus constituting means for returning the switch point to the positions assumed thereby. The bar 15 has its end portion 21 provided with a slot 22, through which the shank 23 of the T-shaped bolt 24 extends, thus providing a pivot for the bar. Between the shank 23 and one end of the slot 22, the spring 20 is arranged. It will be observed that this spring 20 returns the switch point 5 to the position shown in full lines in Fig. 3, after the switch point is moved to the position shown in dotted lines. Arranged between the T of the bolt 24, and one wall of the boxing or casing 25 is the spring 19, by which the switch point 5 is returned to the position shown in full lines in Fig. 4 subsequently to the switch point being thrown to the position indicated in dotted lines. When the switch point 5 is moved to the position shown in the dotted lines in Fig. 4, the T-shaped bolt 24 is moved with the bar 15, but when the switch point is moved into the position in dotted lines in Fig. 3, the T-shaped bolt remains stationary.

The boxing 25 may be made of any suitable material, preferably metal, and may be arranged in any suitable manner below the surface of the concrete, in order to properly hold the T-shaped bolt. The bar 15, as well as the casing 25, is also incased in a boxing or casing 26, which may be embedded below the surface of the concrete in any suitable manner. As shown in the drawings, the boxing 25 is within the boxing or casing 26, but it is to be understood that the boxing may be distinct from the boxing or casing 26, or constructed as an extension of the boxing 26.

The T-shaped bolt 24 constitutes a fulcrum for the bar or lever 15. To move the bar 15 upon its fulcrum, which will actuate the switch point, by virtue of the cam portions 27 of the slot 13 contacting with the

roller 11, an oscillating tongue 28 is provided, which is pivoted at 29 to a stud 30. One end of the tongue 28 is provided with a slot and pin connection with one arm 31 of the bell crank lever 32, the other arm of which is pivoted at 33 to the rod 34, which in turn is pivoted to the bar 15 as at 35. The bell crank lever 32 is pivoted upon a stud 36. The oscillating tongue works below the plates 37, and is provided with an elongated projection 38 which operates between the two plates 37. The plates 37 are secured to the inwardly projecting flanges 39 of the boxing or casing 40, by means of the lag bolts 41. The oscillating tongue adjacent its longitudinal side edges is provided with longitudinal ribs 42, which contact with the under faces of the plates 37, in order to prevent foreign matter getting below the tongue which will retard the movements thereof. The raised portion 38 of the oscillating tongue is V-shaped at each end, in order to guide the member or shoe *a* carried by the car. When the switch point 5 is in the position shown in Fig. 1 in full line, the member or shoe *a* passes on the side 44 of the tongue, but when the switch point is in the position shown in Fig. 2, the member or shoe *a* engages the opposite side 45 of the tongue which will reverse the positions of the switch point 5 shown in Figs. 1 and 2.

It is to be understood that the oscillating tongue may be arranged between the tracks or on the side, or at any other suitable location, so as to be properly manipulated by the shoe of the car.

The formation of the slot in the fulcrumed bar, that is, at each end of the slot, constitutes means for locking the fulcrumed bar positively, so that the roller of the switch point cannot operate it by sliding along the inclined slot.

The ribs 42 shear against the under surfaces of the plates 37 with just enough friction to hold the oscillating member of tongue in its adjusted position. By this construction the oscillating tongue is prevented from rebounding after having been moved. The ribs 42 also prevent foreign matter, such as dust and the like, from getting into the boxing between the two plates 37. The raised portion on the oscillating tongue, that is, the centrally located raised portion prevents wagon wheels and the like from getting caught between the two plates 37.

From the foregoing, it will be observed that there has been devised a novel, efficient, simple and practical switch, and one which will fulfil the various requirements.

The invention having been set forth, what is claimed as new and useful is:

1. In a device as set forth, a pivoted switch member having a roller, a fulcrumed bar having a cam slot connection with the

roller, and an oscillatory member having connections with the bar and adapted to be oscillated by a member of the car for actuating the fulcrumed bar.

5 2. In a device as set forth, a pivoted switch member having a roller, a fulcrumed bar having a cam slot connection with the roller, an oscillatory member movable in a slot, a bell crank lever having connections therewith, and connections between the bell crank lever and the fulcrumed bar, said oscillatory member being adapted to be actuated by a member of the car for actuating the fulcrumed bar.

15 3. In a device as set forth, a pivoted switch point, a fulcrumed bar having a cam slot connection with the switch point, means adapted to be operated by a member of a car for actuating the same, said fulcrumed bar having means cooperating with its fulcrum for returning the switch point to the position assumed by the same when moved by the flanges of the car wheels.

25 4. In a device as set forth, a pivoted switch member having a roller, a fulcrumed bar having a cam slot connection with the roller, means adapted to be actuated by a member of the car for actuating the fulcrumed bar, said fulcrumed bar having means cooperating with its fulcrum for returning the switch point to the position assumed by the same when moved by the flanges of the car wheels.

35 5. In a device as set forth, a pivoted switch point, a fulcrumed bar having a cam slot connection with the switch point, means adapted to be operated by a member of a car for actuating the bar, a bolt constituting the fulcrum for the bar, a casing for the bolt in which it is movable when the switch point is moved in one direction by the wheels of the car, and means cooperating between the

bolt and the casing for returning the switch point.

6. In a device as set forth, a pivoted switch point, a fulcrumed bar having a cam slot connection with the switch point, means adapted to be operated by a member of a car for actuating the bar, a bolt constituting the fulcrum for the bar, a casing for the bolt in which it is movable when the switch point is moved in one direction by the wheels of the car, means cooperating between the bolt and the casing for returning the switch point, said bolt being stationary when the switch point is moved in another direction, and means cooperating between the bolts and the bar for returning the switch point after being moved in the other direction.

7. In a device as set forth, a pivoted switch point, a fulcrumed bar having a cam slot connection with the switch point, means adapted to be operated by a member of a car for actuating the bar, a bolt constituting the fulcrum of the bar, said bolt being movable with the bar when the switch point is moved in one direction by the car wheels, means cooperating with the bolt for returning the switch point, said bar having a slot into which the bolt extends, said bolt being stationary when the switch point is moved in a different direction by the car wheels, and means cooperating with the bolt when stationary and one end of the slot for returning the switch point after being moved in said different direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JESSE FUNDERBURG.

Witnesses:

DEAN SWIFT,
ROBERT A. BOSWELL.