No. 671,210. Patented Apr. 2, 1901.

J. C. FAIR.

STREET CAR SWITCH OPERATING DEVICE.

(Application filed Aug. 8, 1899.)

(No Model.) 2 Sheets—Sheet 1.

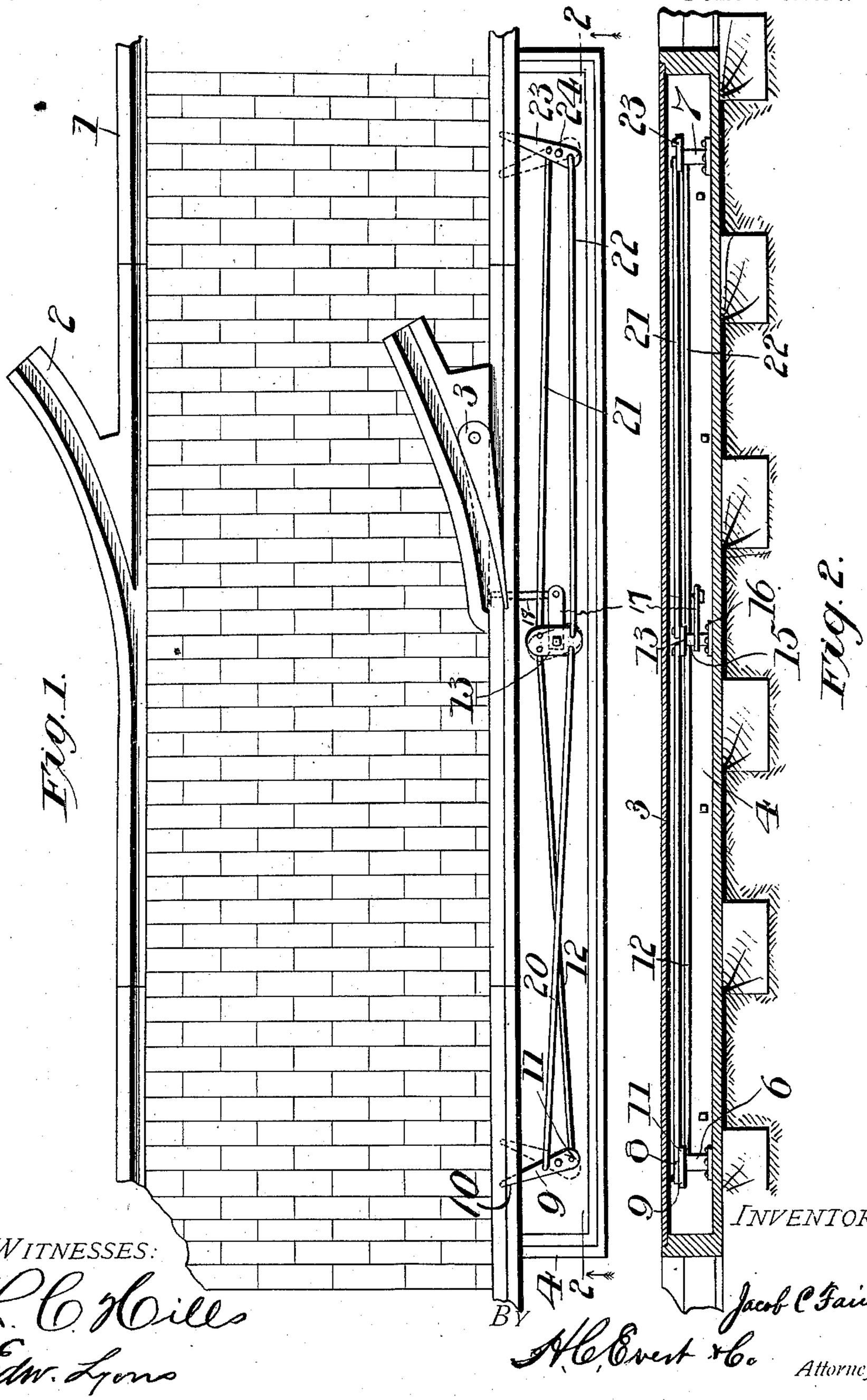

Fig. 1.

Fig. 2.

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Fig. 3.

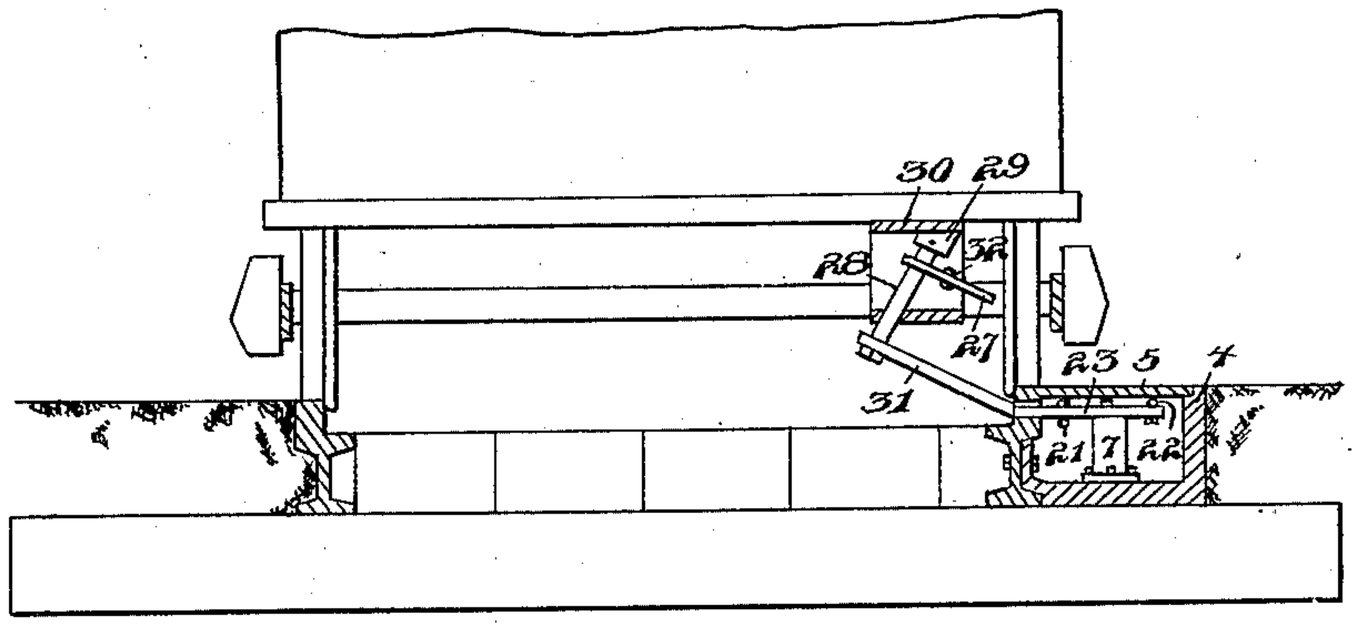


Fig. 4.

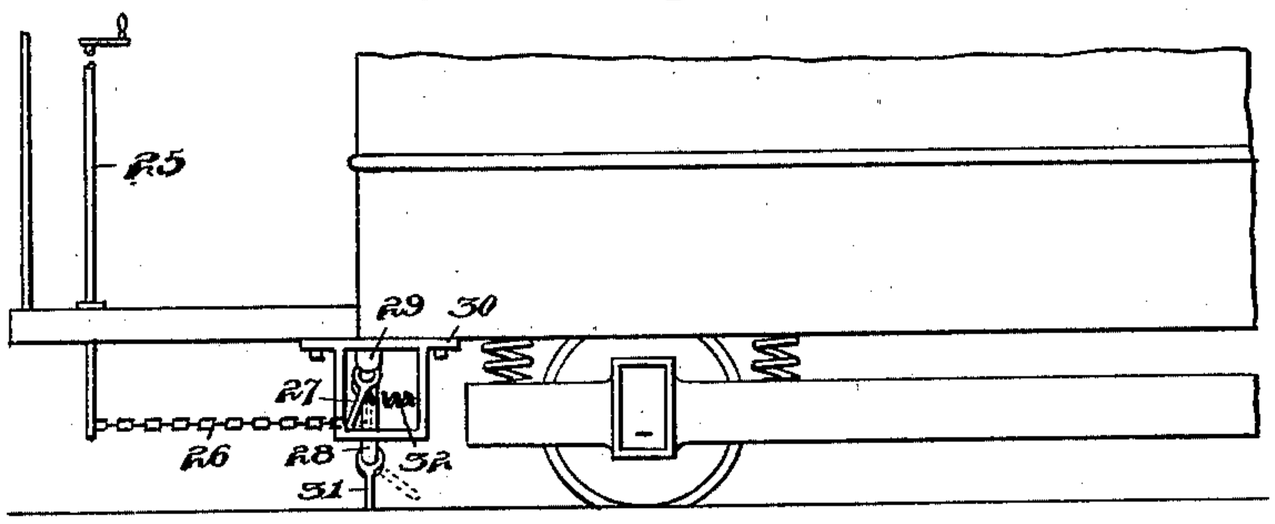


Fig. 5.

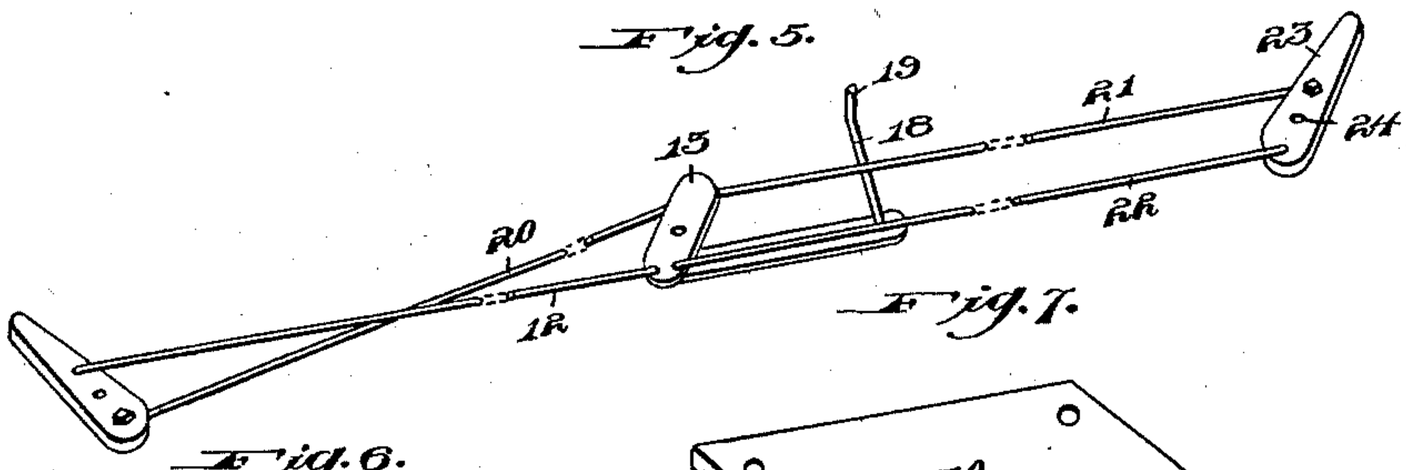


Fig. 7.

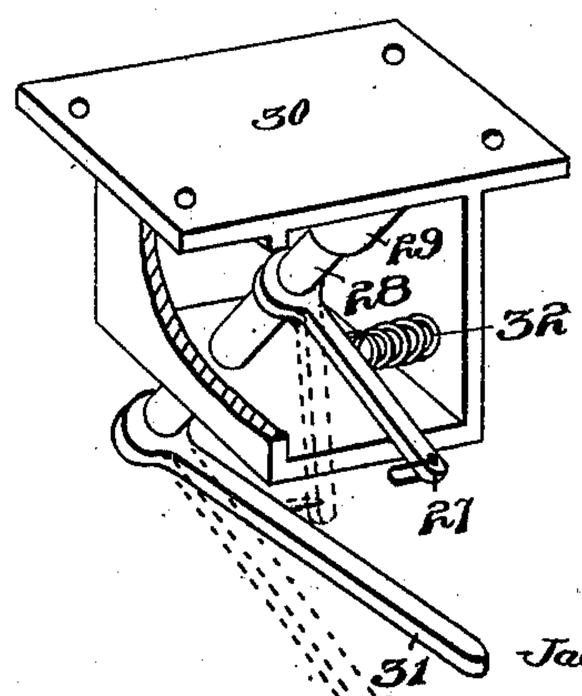
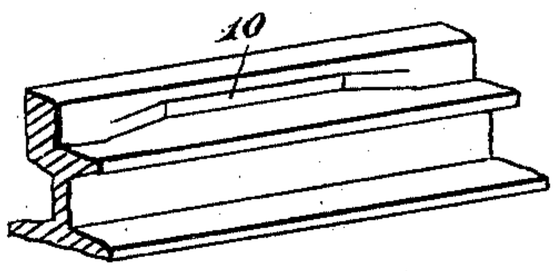


Fig. 6.



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UNITED STATES PATENT OFFICE.

JACOB C. FAIR, OF MONTERAY, PENNSYLVANIA.

STREET-CAR-SWITCH-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 671,210, dated April 2, 1901.

Application filed August 8, 1899. Serial No. 726,507. (No model.)

To all whom it may concern.

Be it known that I, JACOB C. FAIR, a citizen of the United States of America, residing at Monteray, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Street-Car-Switch-Operating Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in switches, and more particularly to an apparatus for turning switches in any desired direction from the platform of the car.

The invention has for one object to provide novel means whereby a switch mechanism may be easily operated and automatically returned to its normal position.

The invention has for its further object to construct a mechanism of the above-described class that will be extremely simple in its construction, and strong, durable, and highly efficient in its operation.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a top plan view of the main track and siding having my improved track mechanism applied thereto. Fig. 2 is a vertical longitudinal sectional view of the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a front view of a portion of a car, partly broken away, equipped with my improved switch mechanism and showing a transverse vertical sectional view of the track. Fig. 4 is a side elevation of the same. Fig. 5 is a perspective view of the mechanism attached to the track for operating the switch-tongue. Fig. 6 is a perspective view of that portion of the rail showing the point of connection between the track mechanism and the switch-throwing mechanism attached to the car. Fig. 7 is an enlarged perspective view of the switch-throwing mechanism attached to the car.

Referring to the drawings by reference-numerals, 1 indicates the main track, 2 the siding, and 3 the switch-tongue.

The reference-numeral 4 represents a suitable casing arranged at the side of the rail, said casing being provided with a suitable cover 5. In this casing are mounted standards 6 and 7, said standards being rigidly secured to the bottom of the casing. Upon the top of the said standard 6 is pivotally secured at 8 a lever-arm 9, the one end of said lever-arm 9 extending through the slot 10, formed in the rail, and the other end of said lever-arm being pivotally attached at 11 to the rod 12, the free end of said rod 12 being secured to the lever-arm 13, said lever-arm having centrally secured thereto a shaft 15, said shaft being rotatably mounted upon a bearing 16, the latter being rigidly secured to the bottom of the casing. The said shaft 15 also carries an arm 17, which is rigidly secured thereto, said arm carrying a rod 18, the latter terminating in an upwardly-extending portion 19, which is adapted to engage the under face of the switch-tongue and operate the same. A rod 20 is pivotally attached to the upper face of the lever 9 and extends to the lower end of the lever-arm 13, to which it is pivotally secured.

The reference-numerals 21 and 22 indicate lever-rods which are attached to the lever-arm 13 and the lever-arm 23, the latter being pivoted at 24 and extends through the slot 10, formed in the rail.

The reference-numeral 25 indicates an operating-rod which is rotatably mounted and extends through the platform of the car, said rod being provided at its lower end with a chain 26, the end of said chain being connected to an arm 27. The said arm 27 is attached to a shaft 28, the latter being rotatably mounted in a sleeve 29, secured to the upper and inner face of the casing 30, the latter being attached to the under side of the platform of the car. Said shaft extends through the lower portion of the casing and carries on its end a finger 31, which is adapted to enter the slot 10 of the rail and engage the extending portion of the lever-arm 23 or lever-arm 9. A spiral spring

32 is secured in the said casing 30, the one end of said spring engaging with the arm 27 and the other end of said spring being secured to the side of the casing.

The operation of my improved switch-throwing mechanism is as follows: When it is desired to operate said mechanism, the operating-rod 25 is rotated, thus winding up the chain 26 and operating the arm 27, carrying with it the shaft 28 and finger 31, as shown in dotted lines of Figs. 4 and 7 of the drawings. When the slot 10 of the rail is reached, the finger will engage either the lever-arm 23 or 9, as the case may be, thereby operating the rod 12, 20, 21, or 22, and the mechanism will be in the position as shown in Fig. 1 in dotted lines, the switch-tongue being thrown in the desired position and the car allowed to traverse in the direction of its proper course of travel.

From the foregoing description the many advantages obtained by the use of my improved switch-throwing mechanism will be readily apparent, and a further description thereof is deemed unnecessary. It will be noted, however, that various changes may be made in the details of construction of my improved device without departing from the general spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a switch-operating mechanism, the combination with the track-rails provided with suitably-arranged slots, of a casing arranged at the side of the track-rails adjacent to the switch, a lever-arm pivotally secured at each end of the said casing and adapted to project through the side of the casing and through the slot, a lever-arm 13 pivotally secured at the center of the said casing, rods 12, 20 21 and 22 for connecting together the said lever-arms, an arm 17 connected to the lever-arm 13 and adapted to be operated thereby, a rod 18 connected to said arm 17 at one end and at its opposite end to a switch-rail, a casing secured to the underneath face of the car-platform, a collar or sleeve arranged in the said casing, a shaft journaled in the said sleeve and the bottom of said casing, and extending downwardly therefrom, a finger rigidly secured to the lower end of said shaft and adapted to operate said lever-arms, an arm 25 rigidly connected to said shaft, a spring arranged in the said casing and connected to the said arm for normally retaining the same and the shaft in an inoperative position, and operating-rod, and connections between said arm 25 and said operating-rod, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

JACOB C. FAIR.

Witnesses:
JOHN NOLAND,
E. W. ARTHUR.