

(No Model.)

D. H. McCLELLAND.
RAILROAD SWITCH.

2 Sheets—Sheet 1.

No. 573,477.

Patented Dec. 22, 1896.

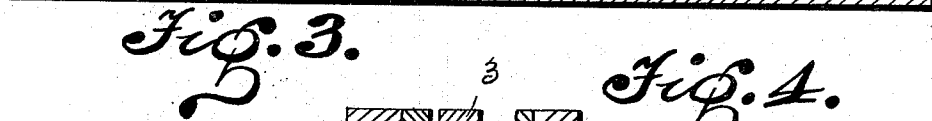
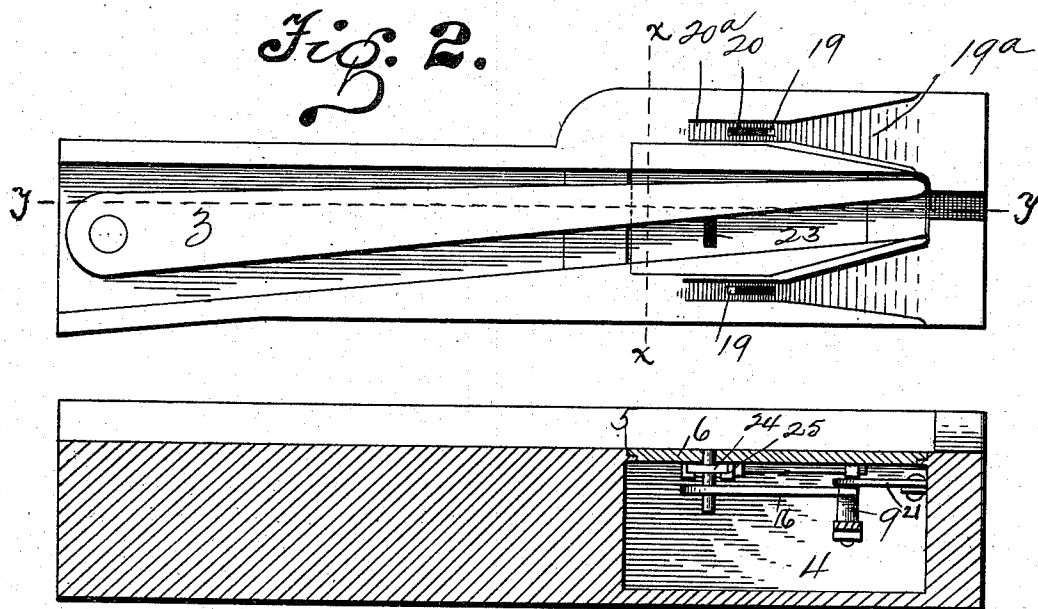
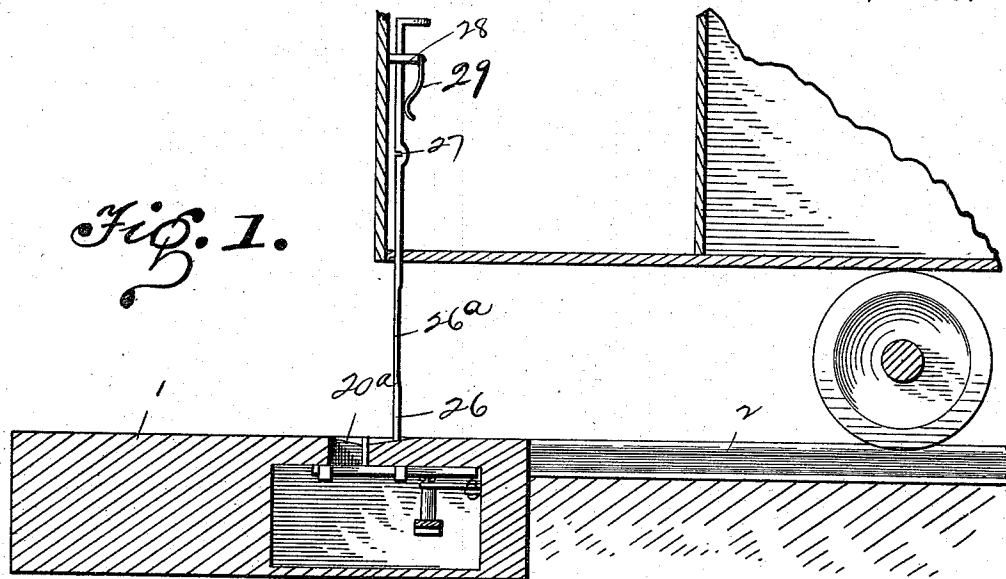
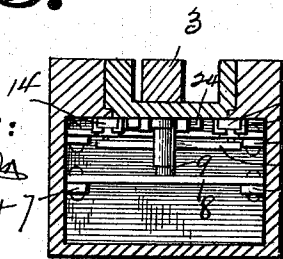


Fig. 4.

Witnesses:
A. C. Appleman
Frank H. Stright



Inventor:
David H. McClelland.

By J. H. Stevenson Atty.

(No Model.)

D. H. McCLELLAND.
RAILROAD SWITCH.

2 Sheets—Sheet 2.

No. 573,477.

Patented Dec. 22, 1896.

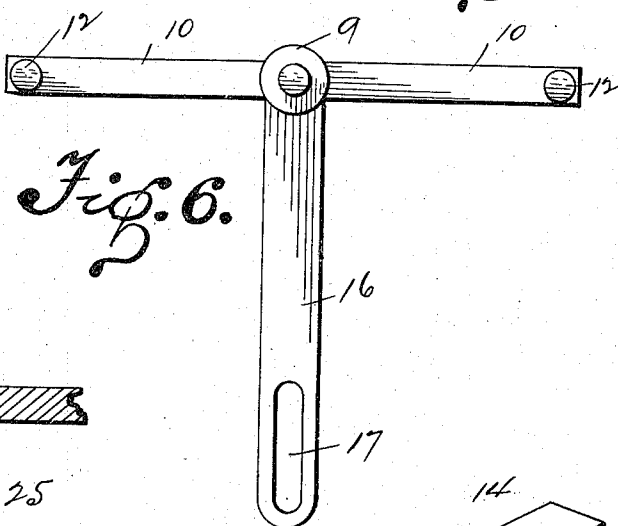
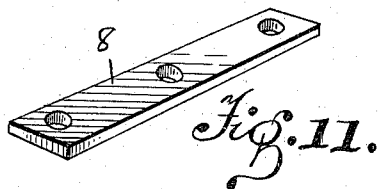
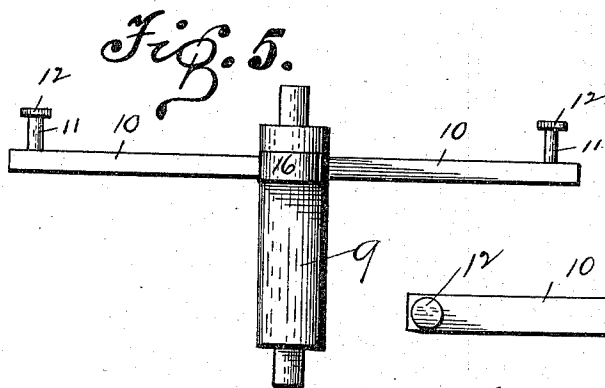


Fig. 7.

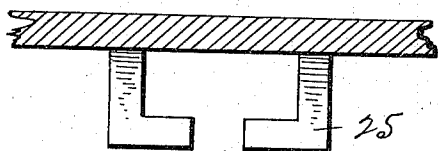


Fig. 9.

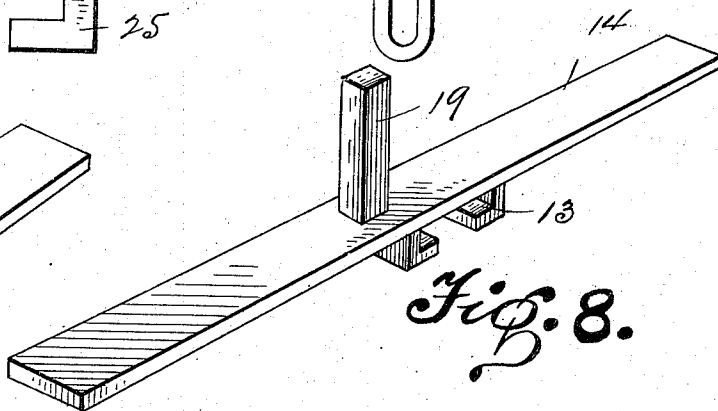
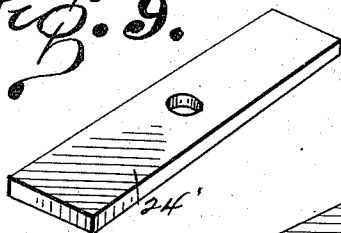
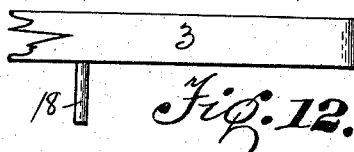
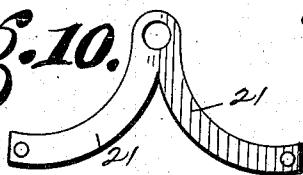


Fig. 10.



Witnesses:

A. A. Applin
Frank H. Straight.

Inventor:

David H. McClelland.

By J. H. Stevenson Atty.

UNITED STATES PATENT OFFICE.

DAVID H. McCLELLAND, OF ALLEGHENY, PENNSYLVANIA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 573,477, dated December 22, 1896.

Application filed April 1, 1896. Serial No. 585,847. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. McCLELLAND, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in switches for street-railways and the like, and relates more particularly to that class of switches that may be operated from the car.

The invention has for its object to provide a switch that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture; furthermore, that will be easily operated from the car.

Still further objects of my invention consist in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

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

Figure 1 is a sectional view of a portion of a car, showing the track with switch in position. Fig. 2 is a top plan view of my improved switch. Fig. 3 is a sectional view taken on the line *y y* of Fig. 2. Fig. 4 is a sectional view taken on the line *x x* of Fig. 2. Fig. 5 is a front elevation of the shifting arm. Fig. 6 is a top plan view of the same. Fig. 7 is a sectional view of the plate with guides in side elevation. Fig. 8 is a perspective view of the shifting plate and pin. Fig. 9 is a perspective view of the guard-plate. Fig. 10 is a top plan view of the fulcrum-arm. Fig. 11 is a perspective view of the fulcrum-plate. Fig. 12 is a side elevation of the shifting pin of the switch-rail.

In the drawings, 1 represents the casting or block which is adapted to be embedded in the track flush with the top of the rail 2. This casting or block is cast with a tapered groove in the top, and near the wide end of the same is pivotally secured to the block the switch-rail 3 with its smaller end extending toward the small end of the groove. Near the forward end of the block is a cut-away portion 4, forming a box for the reception of the mechanism of the switch. The casting is provided at the top of the box with inwardly-projecting flanges 5 5, forming a rest for the plate 6, which forms a cover for the box 4. In the sides of the casting within this box is provided flanges or lugs 7 7, to which is rigidly secured the bearing-plate 8, provided for the upright post 9. This upright post 9 is provided with cross-arms 10 10, carrying pins 11 11 near their outer ends. These pins 11 11 are provided with heads 12 12, adapted to engage in guides 13 13 on the underneath side of the shifting plate 14, which is supported by guides 15 15, provided on the underneath side of the plate 6 and casting 1. To the upright post 9 is secured an arm 16, having an oblong slot 17 in its outer end, which engages a pin 18 of the switch-rail 3. The shifting plate 14 is provided on the top with a pin 19, which protrudes through a slot 20 in the casting 1.

The fulcrum-arms 21 21 converge together to a V shape and are secured on the upright post 9, with their outer ends secured on lugs 22 22 on the casting 1. A slot 23 is provided in the plate 6 for the reception of the pin 18, carrying dust-guard plate 24, which is secured in guides 25 25. A spring-lever 26, having a slot 27, is secured in a keeper 28, provided with a spring 29, engaging the lever 26 to hold the same in engagement with the keeper, is provided on the car, the spring-lever 26, when lowered, being adapted to engage the pin 19 and throw the switch-rail in the desired position.

The upper face of the casting is provided with a groove 19^a, which is tapered and inclined toward the pin 19 and serves to guide the rod 26 to engagement with the pin 19. This groove extends in alinement with the pin 19 on the other side thereof, as shown at 20^a, which portion is similarly inclined to—

ward the pin and permitting the rod 26 to elevate and clear the pin 19 as soon as it has moved the same in the slot 20 and operates the switch-rail. The rod 26 is formed with a slender portion 26^a, which allows the rod to spring and clear the pin 19 in case the switch-rail should be clogged in any manner to prevent its operation.

The operation of my improved switch is as follows: When the motorman desires to shift the switch, the spring-lever is lowered to enter the slot in the top of the casting and engages the pin 19, which in turn shifts the plate 14 and the arms 10 10 and 16 and throwing the switch to the desired side. One of the spring-levers is provided for each pin 19, and the operation when the switch is turned in the opposite direction will be the reverse from that heretofore described.

By this construction of a switch the motorman can readily throw the switch in the desired position without the necessity of dismounting from the car, as is now the case, and it will also be observed that my improved switch possesses many advantages over the switch ordinarily employed. It will also be observed that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a switch, the combination of the block or casting having a cut-away portion to guide the operating device attached to a car, of a pivoted switch-rail, the pivoted bracket at-

tached thereto and having two arms carrying the sliding plates, the lugs on the plates adapted to be pressed upon by the device on the car, and the fulcrum-plate secured to the casting and upon which the bracket is pivoted.

2. In a switch, the combination of the block or casting having a cut-away portion acting as a guide, for the switch-operating device on the car, of the pivoted switch-rail having its free end secured to one arm of the three-armed bracket, the slidable shifting plate held in place by means of the lugs secured beneath the bed, and having projecting above its surface the lugs which are pressed against to operate the shifting plates and switch, and the fulcrum-plate secured to the casting and supporting the pivoted bracket.

3. In a switch, the combination of the block or casting having a cut-away portion and carrying a pivoted switch-rail, a shifting plate secured within the cut-away portion and carrying an upright pin and guides, said guides being adapted to receive the pins of the cross-arms of the supporting-post, and the pins of the shifting plate adapted to engage an adjustable rod secured to the car when said rod is lowered, substantially as shown and described.

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

DAVID H. McCLELLAND.

Witnesses:

HENRY C. LYON,
FRANK GRAEBING.