

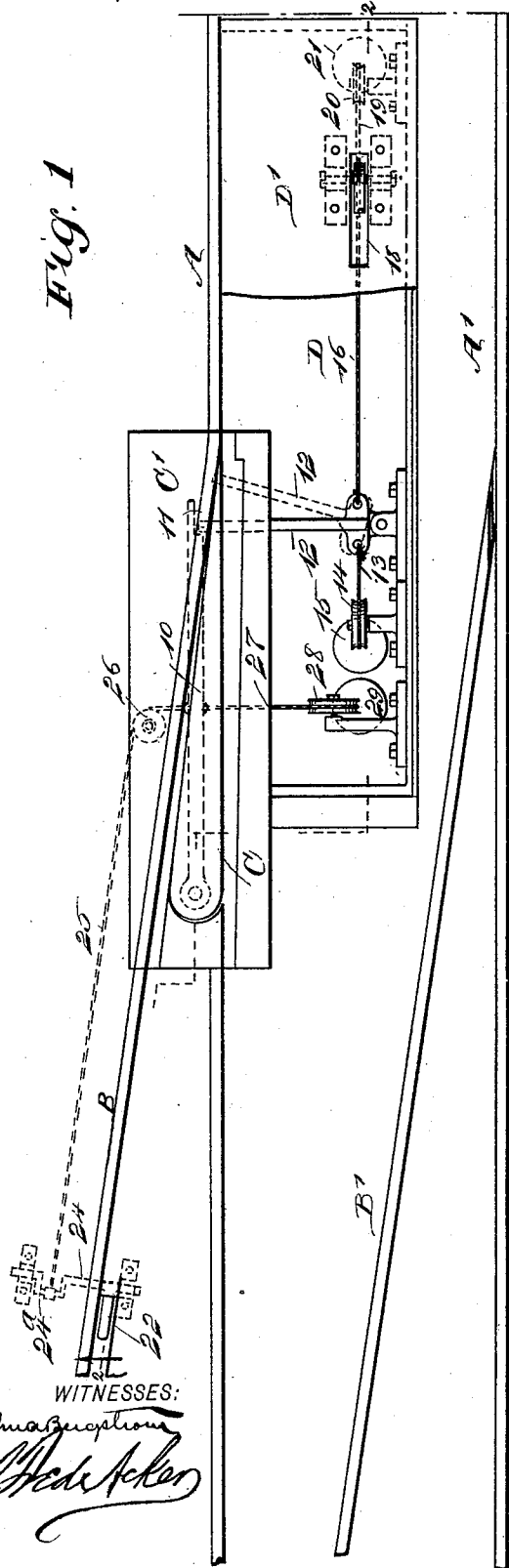
(No Model.)

W. F. DERMODY.  
SWITCH OPERATING DEVICE.

No. 522,109.

Patented June 26, 1894.

Fig. 1



WITNESSES:

*John A. B. ...*  
*...*

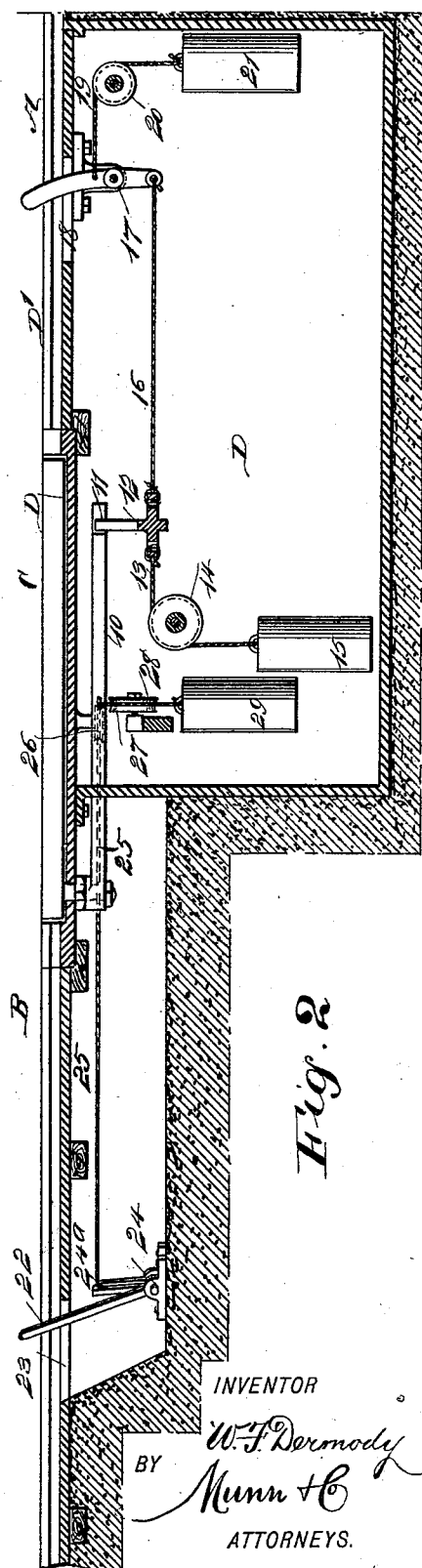


Fig. 2

INVENTOR

*W. F. Dermody*

BY

*Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM F. DERMODY, OF BROOKLYN, NEW YORK.

## SWITCH-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 522,109, dated June 26, 1894.

Application filed April 4, 1894. Serial No. 506,325. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. DERMODY, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Switch-Operating Device, of which the following is a full, clear, and exact description.

My invention relates to an improvement in switch operating devices, and it has for its object to provide such a device capable of being operated from a car while the latter is in motion, the operative mechanism of the said device being exceedingly simple, durable and economic in its construction.

A further object of the invention is to provide a means whereby after a car has passed upon a switch it will automatically set the switch point for the main track.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the switch operating device, a portion of the covering over the box thereof being removed; and Fig. 2 is a longitudinal vertical section taken essentially on the line 2—2 of Fig. 1.

In carrying out the invention the rails of the main track are designated as A and A', the rails of the switch or siding track as B and B', while the switch point is designated as C, and moves upon the usual platform C'. The switch point is pivoted at its heel, and a bar 10 is attached to the pivot of the said switch point beneath the platform upon which the point moves, as shown in dotted lines in Fig. 1 and in positive lines in Fig. 2. The said arm or bar 10, is practically parallel with the switch point, and is provided with a recess 11 in one side at its free end. A pit D, is formed in the ground between the main rails adjacent to the switch, the said pit being normally covered by a plate D'. A locking bar 12 is pivoted to one side of this pit, as shown best in Fig. 1, and the said locking bar is normally in engagement with the recessed portion 11 of the actuating arm 10 of the switch point, the locking bar 12 being

usually horizontally located, or practically so. This locking bar is held in its locking position by attaching to one of its sides, near its pivot point preferably, a rope or chain 13, which is passed over a guide pulley 14, located in said pit D, and a weight 15, is secured to the lower end of the said rope or chain, as illustrated in both of the figures. At the opposite side of the locking bar, and opposite the point of attachment of the rope or chain 15, a second rope or chain 16, is attached to said bar, and this rope or chain 16 is led away from the switch, or in an opposite direction to the rope or chain 13, and is attached at one end to a lever 17, fulcrumed in the pit near the top thereof, the said lever being made to extend upward through an opening 18 in the cover D' of the pit, and above said cover, as shown best in Fig. 2. A third rope or chain 19, is attached to the lever 17 above its pivot point, and is led away from the switch over a pulley 20, and is attached to a weight 21. The two weights 15 and 21, are preferably made to balance one another.

The switch point is moved in a direction to close the switch and open the main line through the medium of a shifting lever 22, which is fulcrumed in the extension of pit D, adjacent to the outer switch rail B, being made to extend upward through a slot 23 in the cover plate of the pit extension. The lever 22 is attached to a rock shaft 24, journaled in bearings located in the extension pit, and the said rock shaft is provided with a crank arm 24<sup>a</sup>, which crank arm has attached to it one end of a chain or cable 25, the said chain or cable being carried in direction of the switch point, being passed over a guide pulley 26, usually located upon the bottom of the switch platform C', and is then secured to the outer side of the actuating arm 10 of the switch point at or near the center of said arm, as shown in dotted lines in Fig. 1.

Immediately opposite the attachment of the chain or cable 25 to the actuating arm of the switch point, a second rope or cable 27, is attached to the opposite or inner side of said arm, and is carried over the guide pulley 28 located in the pit D, and is secured to a weight 29, the weight 29 being sufficiently heavy to open the switch point by drawing the shifting arm 10 inwardly when the lock-

ing bar 12 is disengaged from the said arm, thus opening the way to the switch or siding track.

In operation, when a car approaches the switch, a projection from the platform, or body, or truck of the car is made to engage with the outer end of the lever 17; and upon depressing the said lever the locking bar 12 will be carried out of engagement with the actuating arm 10 of the switch point, and immediately the weight 29 attached to said arm will act to draw the arm inward and open the switch, giving passage to the siding. The switch point will remain in this open position until the car or cars have passed a sufficient distance on the siding to clear the switch point, whereupon one wheel of one of the cars will strike the siding lever 22, compressing the same, and thereby will draw the switch point outward, or to a closed position, opening up the main line, and at that time the weights 15 and 21 will balance themselves, restoring the lever 17 to its normal position and causing the locking bar to again enter in locking engagement with the switch point.

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

1. In a switch operating device, the combination, with a switch point and a shifting arm attached to the pivot of the said point, of a locking bar normally in engagement with the said shifting arm, counterbalance weights connected with opposite sides of the locking bar, and a shifting lever adapted to be operated by a passing car, and connected with the locking bar and located between the weights, and a lever located at the opposite side of the switch point to the shifting lever of the locking bar, the second lever being connected with the shifting arm of the switch point, substantially as shown and described.

2. In a switch operating device, the combination, with a switch point, and a shifting arm attached to the pivot of the said point, of a locking bar normally in locking engagement with the said shifting arm, counterbal-

ance weights connected with opposite sides of the locking bar, a shifting lever adapted to be operated by a passing car, connected with the locking bar and located between the weights, a lever located at the opposite side of the switch point to the shifting lever of the locking bar, the second lever being connected with the shifting arm of the switch point, and a weighted chain or cable connected with the shifting arm of the switch point, the weight acting upon the said arm in a direction opposite to its shifting lever, as and for the purpose specified.

3. The combination, with the main rails of a track, the siding rails and switch point of said track, and an actuating arm attached to the switch point at its pivot point, said arm being provided with a recess in its free end, of a shifting lever located between the main rails opposite the free end of the switch point, a weighted cable attached to the said lever above its pivot point, a second cable attached to the said lever below its pivot, a pivoted locking bar adapted to enter the recessed portion of the switch arm, said locking bar being attached to the said second cable of the shifting lever, and a third cable attached to the opposite side of the locking bar and provided with a weight counterbalancing the weight on the first cable, a shifting lever located near one of the siding rails and connected with the crank shaft, the crank shaft being in cable connection with the outer side of the shifting arm of the switch point, and a weighted cable connected with the opposite side of the said shifting arm, substantially as shown and described, whereby the locking bar holds the switch point in a given position and the weight attached to the shifting arm shifts the switch point when it is not controlled by the locking bar, as and for the purpose specified.

WILLIAM F. DERMODY.

Witnesses:

J. FRED ACKER,  
JNO. M. RITTER.