

No. 750,334.

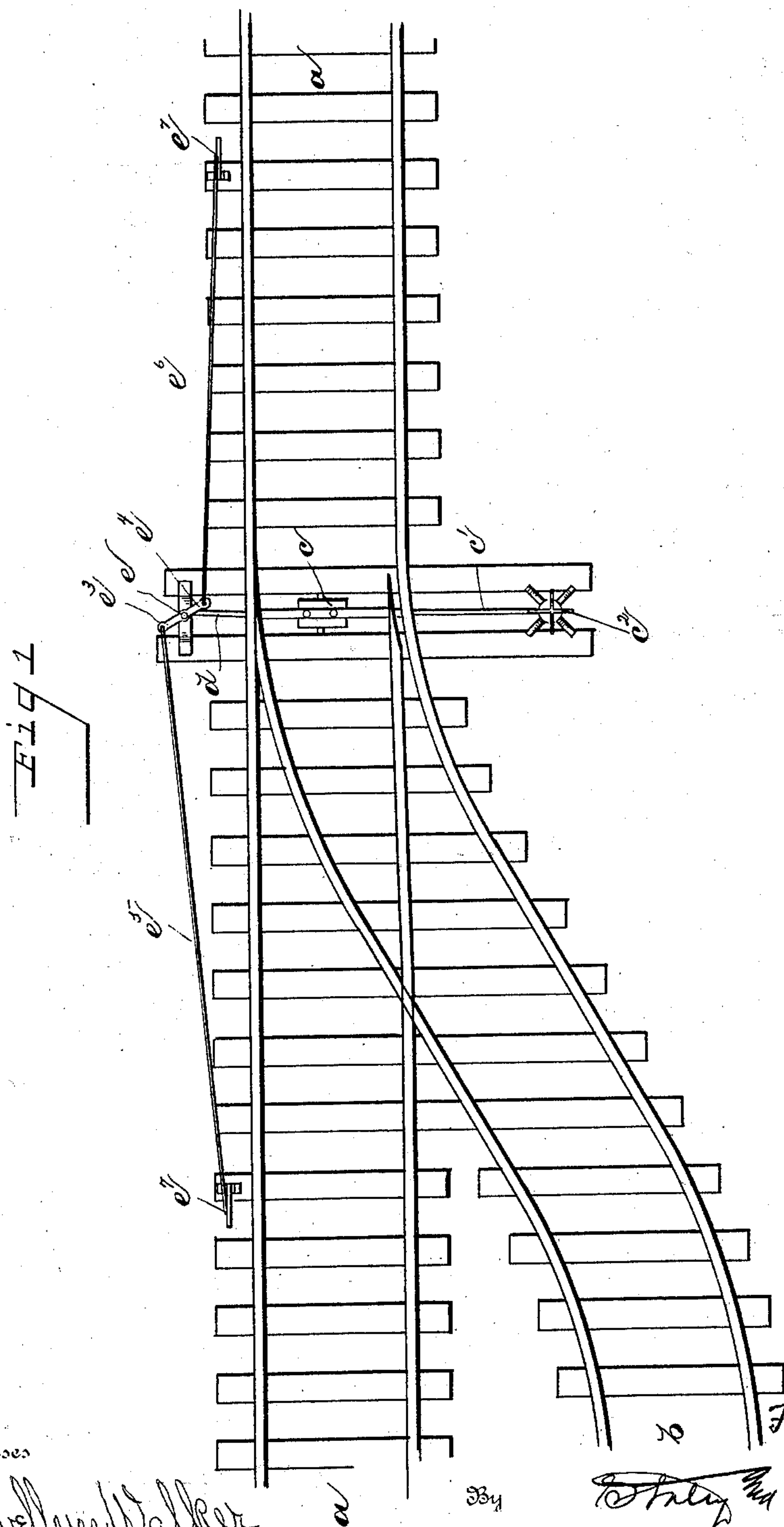
PATENTED JAN. 26, 1904.

F. BAYLESS.  
RAILWAY SWITCH.

APPLICATION FILED MAR. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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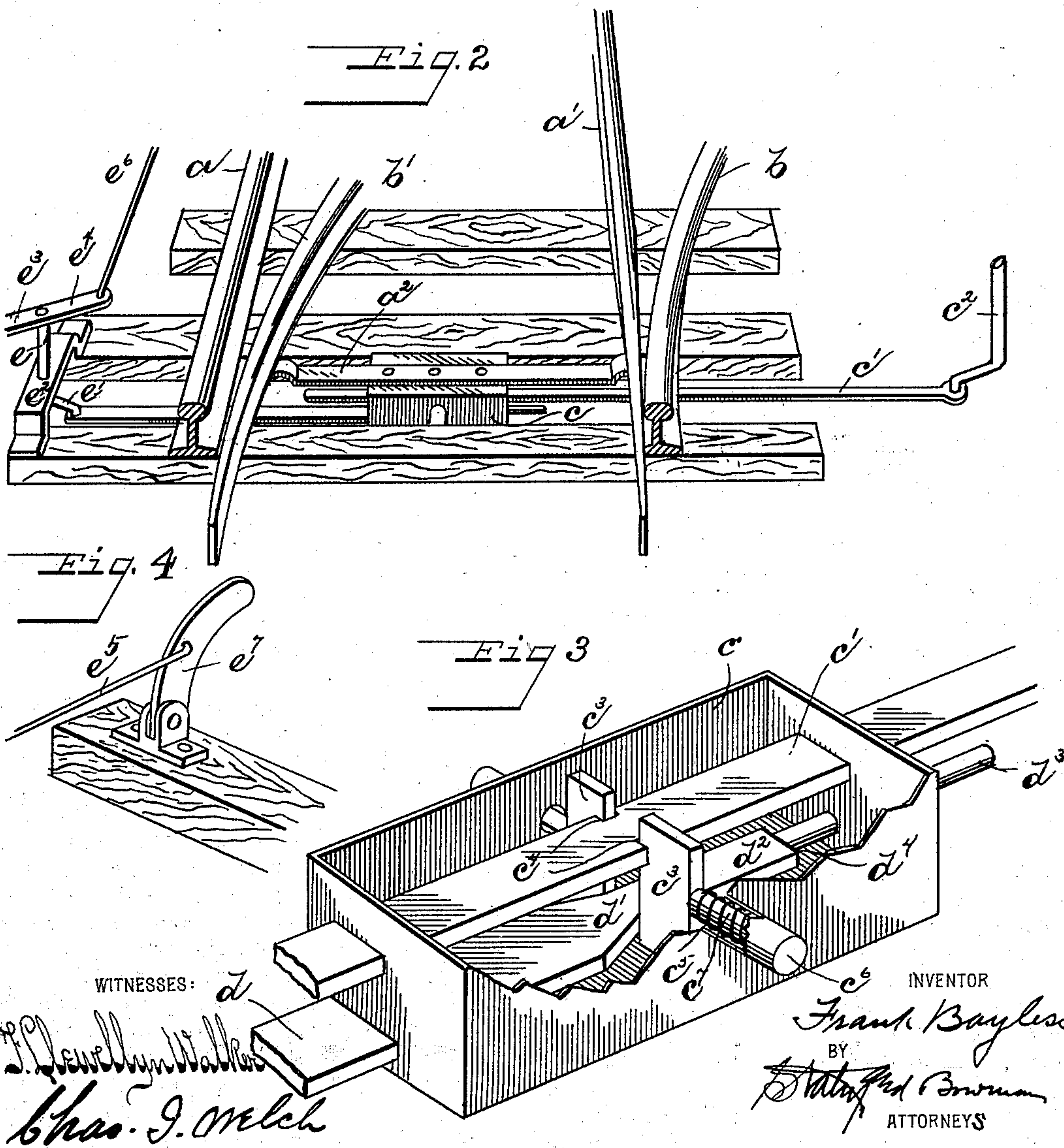
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# UNITED STATES PATENT OFFICE.

FRANK BAYLESS, OF SPRINGFIELD, OHIO.

## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 750,334, dated January 26, 1904.

Application filed March 19, 1903. Serial No. 148,510. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK BAYLESS, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have  
5 invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to improvements in railway-switches; and it more particularly relates to operating devices for throwing the switch from the car or train traveling on the track.

The object of my invention is to provide means operated by a moving car or train for throwing the switch from an open to a closed position in the event of the car or train approaching a switch which has inadvertently been left open or in a position to either derail the car or train or throw the same into the  
15 open switch, and this may be accomplished whether the switch has been left locked or unlocked in its open position.

The invention consists in the constructions and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a general perspective view of a main track and siding with a switch embodying my invention.  
25 Fig. 2 is an enlarged view in perspective of a portion of the switch-operating devices. Fig. 3 is a top view in perspective of a movable casing forming part of the switch-operating devices, the top of said casing being removed and a portion of one side broken away to better illustrate the parts. Fig. 4 is a detail of a pivoted contacting device for the moving car or train.

Like parts are represented by similar letters  
40 of reference in the several views.

In the said drawings, *a* represents the rails of the main line of track, and *b* the rails of the siding, *a'* *b'* representing the usual movable rails of the switch. These movable rails are  
45 connected together by a bar *a''*, and to the under side of this bar *a''* is rigidly attached by rivets or bolts a casing or box *c*, this casing, as shown, being located midway between said movable rails and below the same and being  
50 also preferably located between two adjacent

ties. Extending through this casing *c* is a bar *c'*, which extends to and is adapted to be operated by an ordinary hand-switch *c''* in the usual manner. This operating switch-bar *c'* passes loosely through guides or openings in  
55 the respective ends of said casing *c* and is normally connected to said casing, so as to move the same therewith when the hand-switch is operated. This connection is made by means of spring-pressed plates *c'''*, normally spring-pressed into engagement with notches *c''''* in the  
60 sides of said bar *c'* by springs *c'''''*, located in hollow trunnions *c''''''*, connected to and extending laterally from the sides of said casing, said plates having spindles *c'''''''*, which extend  
65 into said hollow trunnions for the purpose of guiding said plates and around which the springs are located.

As thus far described, the device will be operated in the usual manner to open and close the switch by hand through the medium of the bar *c'*, connected to the hand-switch, the movable casing *c*, connected to said bar, and the bar *a''*, connected to said casing and the movable rails, respectively. In the event the switch  
70 is inadvertently left open I have employed the following mechanism for throwing said switch to a closed position by a car or train approaching said switch, this mechanism being adapted to operate said switch whether locked  
75 or unlocked in its open position. Extending into the said casing *c* is an auxiliary or train-operating bar *d*. This bar extends through a suitable guide in one end of said casing, and inside of said casing it is beveled at *d'* into  
80 a reduced portion *d''*, and this reduced portion *d''* passes between the respective spring-pressed plates *c'''* and is of such width as to pass freely between the same when in their engaged position with the bar *c'*, the beveled  
85 portion *d'* of said bar normally standing slightly removed from said plates. The bar *d* has a further reduced portion *d'''*, extending through a suitable guide in the other end of said casing, this reduced portion forming a  
90 shoulder *d''''*, which normally stands slightly removed from the end of said casing. The auxiliary bar *d* extends outwardly beneath the rails to the side of the track and is pivotally connected by a crank-arm *e'* to a ver-  
100



tically-disposed crank-shaft  $e$ , supported in a suitable support  $e^2$ . To the upper end of this crank-shaft are connected, by means of crank-arms  $e^3 e^4$ , rods  $e^5 e^6$ , which extend along the line of track in opposite directions and are each connected to a pivoted contacting device  $e^7$ , located at a suitable distance from the switch and at a convenient point at the side of the track to be engaged by a suitable contacting device (not shown) on the moving car or train, this device being in the nature of a contacting part adapted to be swung out at the will of the engineer or other trainman, so as to contact with and operate said device  $e^7$ .

By this construction it will be seen that in the event of a car or train approaching a switch thus equipped which has been left open the engineer or other trainman will place the contacting device on the train or car so as to engage the pivoted device  $e^7$ , and thus by means of the connections described operate the auxiliary or train-operated bar  $d$ . The first movement of the bar  $d$  will cause the beveled portion  $d'$  thereof to engage the spring-pressed plates  $c^3$  and press them back against the tension of the springs, so as to disengage said plates from the notches in the switch-bar  $c'$ , and thus unlock said bar from the movable casing. The shoulder  $d^4$  will then engage the end of the casing, and further movement of the bar will cause said casing to move therewith, and thus through the connecting-bar  $a^2$  operate the movable rails to close the switch.

By means of the train-operating mechanism described the switch can only be operated from an open to a closed position, and thus the switch could never be tampered with to open the same without breaking the lock of the hand-switch.

It is obvious that the details of the construction may be varied. For instance, the exact form of the contacting device for the moving vehicle and its connections with the operating-bar may be changed and other changes of like character made in the details.

Having thus described my invention, I claim—

1. In a railway-switch, the combination, with the movable rails thereof and a hand-switch detachably connected to said rails, of means, operated by a moving car or train and normally disconnected from said rails, for disconnecting said hand-switch from said rails and operating said rails independently thereof, substantially as specified.

2. In a railway-switch, the movable rails thereof having a hand-switch normally connected thereto, and train-operated devices normally disconnected from said movable rails but adapted to be operated by a moving train or car to disconnect said hand-switch from said rails and move said rails to a different position, substantially as specified.

3. In a railway-switch, the movable rails

thereof, a hand-operated device for throwing said rails either to an open or closed position, said hand-operated device being detachably connected to said rails, and devices, normally disconnected from said rails, adapted to be operated by a moving car or train, when rails are in an open position, to disconnect said hand-operated device and move said rails to a closed position.

4. In a railway-switch, the movable rails, a hand switch-bar having a connection to said rails, a train-operated bar independent of but adapted to release said hand-bar from said connection and move said connection to throw the switch.

5. In a railway-switch, the movable rails thereof, a hand-operated bar for said switch, devices for connecting said bar to said rails, a train-operated bar extending in proximity to said connecting devices and adapted, when operated, to contact directly with said connecting devices to release said hand-operated bar from said rails and move said rails to a different position.

6. In a railway-switch, the movable rails thereof, a frame or casing located between said rails and connected rigidly thereto, a hand switch-bar detachably connected to said frame or casing, and a train-operated bar adapted, when operated, to disconnect said hand switch-bar from said frame or casing and operate said frame or casing to move said movable rails to a different position, substantially as specified.

7. In a railway-switch, the movable rails thereof, a frame or casing located between said rails and connected thereto, a switch-bar extending into said frame or casing, spring-pressed plates in said casing to engage said switch-bar and connect the same to said frame or casing, a train-operated bar also extending into said frame or casing adapted when operated to disconnect said spring-pressed plates from said switch-bar and move said casing to throw the switch-rails to a different position, substantially as specified.

8. In a railway-switch, the movable rails, a hand switch-bar connected to said rails by spring-pressed devices engaging therewith, a train-operated bar extending in proximity to said spring-pressed devices and provided with a beveled or wedge-shaped portion adapted, when said train-bar is operated, to contact with and disconnect said spring-pressed devices from said hand-bar, and means on said train-bar for moving said rails by a further movement of said bar, substantially as specified.

In testimony whereof I have hereunto set my hand this 14th day of March, A. D. 1903.

FRANK BAYLESS.

Witnesses:

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