

R. H. CONLEY.  
 AUTOMATIC RAILWAY SWITCH.  
 APPLICATION FILED JUNE 23, 1911.

1,022,303.

Patented Apr. 2, 1912.

2 SHEETS-SHEET 1.

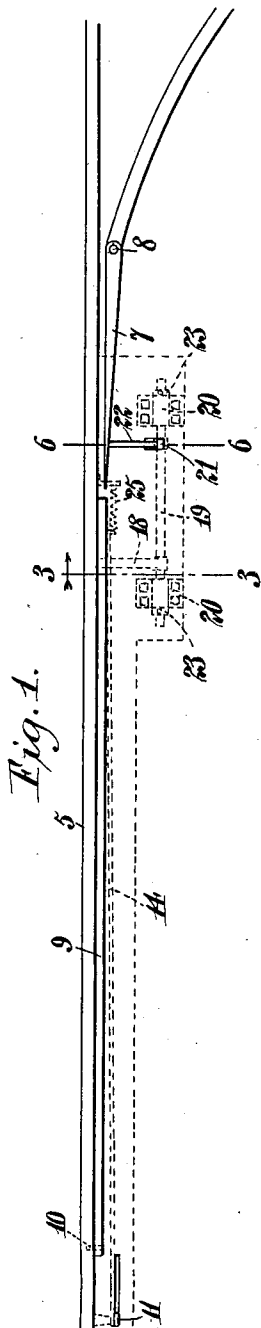


Fig. 1.

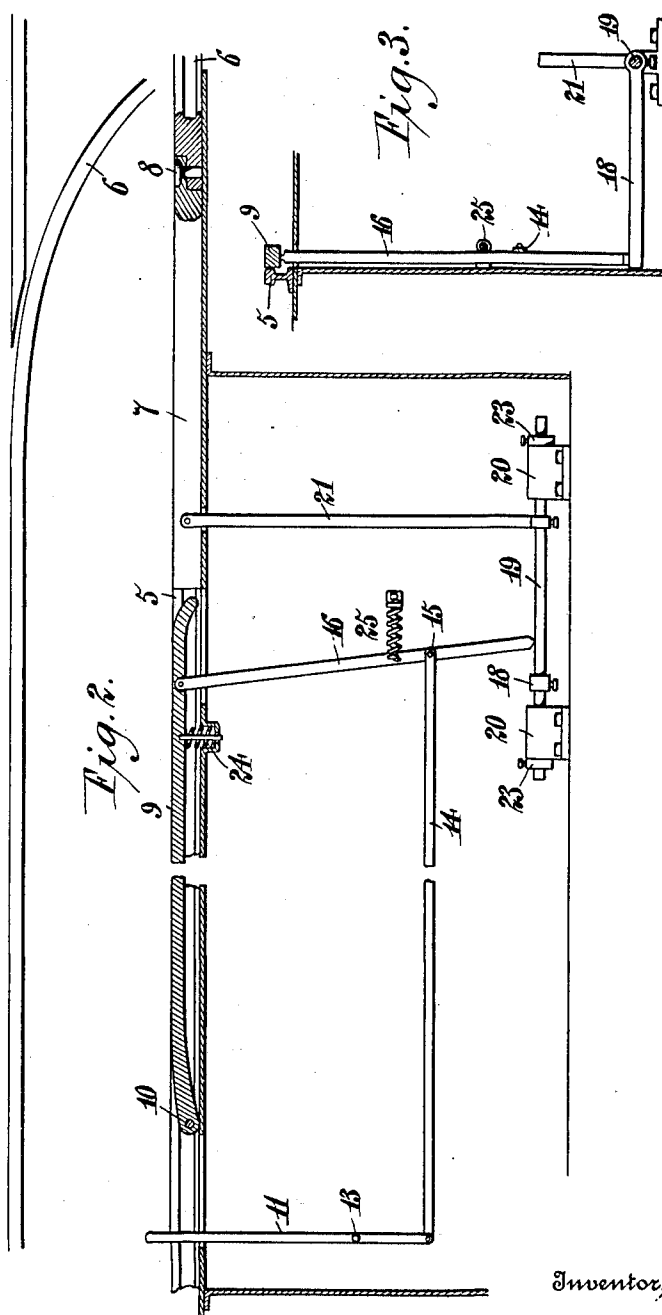
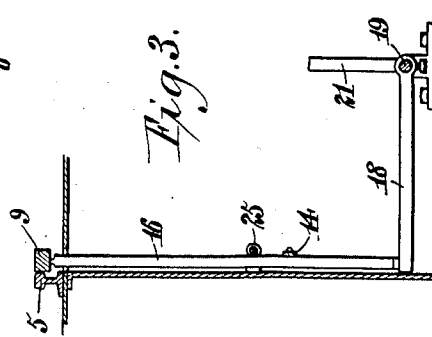


Fig. 2.

Fig. 3.



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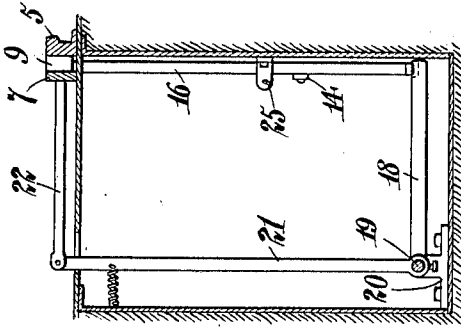


Fig. 6.

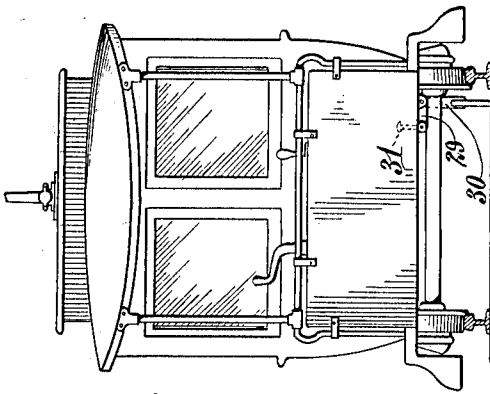


Fig. 4.

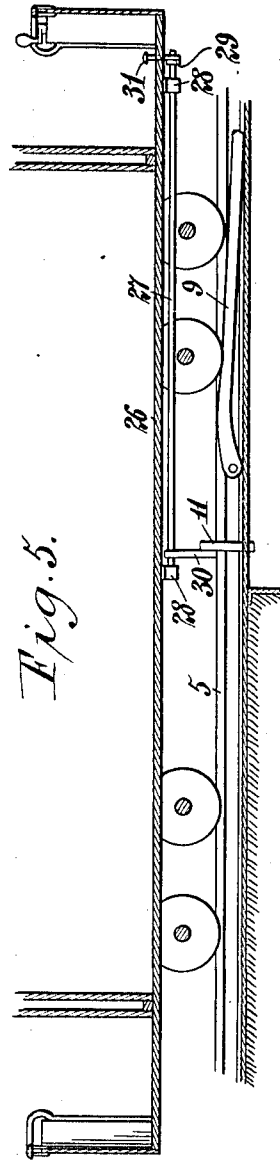


Fig. 5.

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# UNITED STATES PATENT OFFICE.

ROY H. CONLEY, OF LOS ANGELES, CALIFORNIA.

AUTOMATIC RAILWAY-SWITCH.

1,022,303.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed June 23, 1911. Serial No. 634,850.

*To all whom it may concern:*

Be it known that I, ROY H. CONLEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Automatic Railway-Switches, of which the following is a specification.

The invention relates to railway switches, and more particularly to the class of automatic railway switches.

The primary object of the invention is the provision of a railway switch in which a motorman or engineer will have perfect control of the switch for throwing the same at a branch line, while in the car, so as to permit the car to continue past the same on the main line.

Another object of the invention is the provision of a switch which will be automatically closed should it be desired for a car approaching it to continue along the main line.

A further object of the invention is the provision of a switch which is simple in construction, reliable and efficient in operation, and inexpensive in installation.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a fragmentary top plan view of a main and branch line, with the switch constructed in accordance with the invention mounted thereon. Fig. 2 is a fragmentary vertical longitudinal sectional view through the switch. Fig. 3 is a sectional view on the line 3—3 of Fig. 1, looking in the direction of the arrow and showing the switch in open position. Fig. 4 is a front elevation of a car, showing the switch operating mechanism thereon. Fig. 5 is a fragmentary vertical sectional view through the truck thereof. Fig. 6 is a sectional view on the line 6—6 of Fig. 1.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, 5 designates the rails of the main line, and 6 the rails of the side or branch line, the latter intersecting the main line, in the well-known manner, and interposed between the main and side lines is a switch bar 7, the latter being connected to a pivot pin 8 for movement in the usual well-known manner.

Arranged parallel with and at the inner side of one of the rails 5 of the main line, and also at one side of the switch bar 7 is a depressible tread rail or bar 9, the same being connected at one end to a pivot 10 mounted in the rail adjacent to the tread bar. Spaced from the pivoted end of the tread bar 9 is a trip lever 11, the same being vertically disposed and fulcrumed upon a pivot 13 engaged therewith and spaced from its lower end, the lower end of the said trip lever 11 being connected to a horizontally disposed pull rod 14 arranged beneath the plane of the tracks or rails 5 of the main line, the opposite end of the said pull rod 14 being pivoted, as at 15, to a depressible bar 16. This bar is pivoted at its upper end near the free end of the depressible tread bar or rail 9, and is adapted to be thrown into and out of engagement with the branch arm 18 formed on and projecting laterally from a rocking shaft 19, the latter being journaled in bearings 20 fixed to the bed of a suitable chamber or cell formed beneath the rails of the main line, the said rocking shaft being connected with the switch bar, in a manner presently described.

Formed on the rocking shaft 19 is a vertically extending rigid arm 21, the latter being connected through the medium of a pivot 22 with the switch bar 7, near its free end, so that upon the rocking of the shaft 19 in one direction, the said switch bar 7 will be moved to closed position, the said rocking shaft being rotated in one direction on the lowering of the tread rail or bar 9, when the car wheels of a train traveling upon the rails 5 of the main line pass thereover, and when the said depressible bar 16 has been shifted into engagement with the branch arm 18 of the rocking shaft 19, the said depressible bar being moved into engagement with the branch arm 18 on the

shifting of the trip lever 11 by operating mechanism on the car, as will be presently described.

5 Fixed to the rocking shaft 19, outside of the bearings 20, are abutment collars 23, which prevent any longitudinal displacement of the rocking shaft 19 in the said bearings, during the closing or opening of the switch.

10 Arranged beneath the tread rail or bar 9, spaced from its free end, is a compression spring 24 which is suitably supported and is adapted to normally hold the said tread bar or rail 9 elevated, so that its upper surface will be flush with the tread portion of the rail 5 adjacent thereto of the main track, so that the flanged portion of a car wheel, when passing thereover, will depress the tread rail or bar 9 for closing the switch.

20 This tread rail or bar 9 is of a sufficient length, so that when one car wheel is leaving the same, the other car wheel will engage therewith. Thus in this manner, the switch will remain closed until the car wheels on the rear end of a single car, or the wheels on the last car of a train have passed onto the closed switch, the free end of the tread bar or rail 9 being positioned in close relation to the switch bar 7, so that the instant the car wheel leaves the tread bar or rail 9, the same will be engaged with the switch bar, thus obviating any possibility of derailment by reason of the accidental opening of the switch before the car or train passes therethrough.

35 Connected with the depressible bar 16 is a coiled retractile spring 25, the same being suitably connected in the cell, and is adapted to exert a pull on said bar to effect the moving of the trip lever 11 to normal position, after being acted upon by a moving car or train, and also when the car wheels have passed over and off of the trip rail or bar 9 onto the rails of the main line.

45 The operating mechanism for controlling the switch is suitably mounted beneath the truck frame 26 of a car, and comprises a rocking shaft 27 journaled in bearings or hangers 28 suitably fixed to the truck frame, the said shaft being disposed longitudinally thereof, and having formed thereon a lateral outwardly extending arm 29, to which is connected a tapping member 30 which is adapted to be moved into and out of the path of the trip lever 11, during the travel of the train or car by a motorman or engineer thereon, the rocking shaft being actuated in any suitable manner, although in this instance, it is shown actuated by means of a depressible foot-actuated bar or member 31 suitably mounted in the car and normally extended above the platform thereof, so that the foot of the engineer or motorman may operate

it for shifting the member 30 into position 65 for engagement with the trip lever 11, whereby on engaging the latter, the said switch may be thrown to closed position, when a car or train is approaching the same, so that it may continue on the main line, 70 and not enter the siding or branch track.

From the foregoing, taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be readily understood 75 without requiring a more extended explanation.

What is claimed is:

1. The combination with main and side rails, of a movable switch point for opening 80 and closing movements, a rocking shaft supported below the main rails, an arm formed on the said shaft and loosely connected with the switch point, a lateral branch extension formed on the rocking shaft at right angles 85 to the said arm, a depressible tread bar pivotally connected to one of the main rails, a rod depending from said tread bar and movable into and out of engagement with the said branch extension, and means connected 90 with said depending rod and actuated by a moving car to shift the said depending bar into engagement with the branch extension, whereby on the depressing of the tread bar, the said switch bar will be thrown to closed 95 position.

2. The combination with main and side rails, of a movable switch point for opening 100 and closing movements, a rocking shaft supported below the main rails, an arm formed on the said shaft and loosely connected with the switch point, a lateral branch extension formed on the rocking shaft at right angles to the said arm, a depressible tread bar pivotally connected to one of the main rails, 105 a rod depending from said tread bar and movable into and out of engagement with the said branch extension, means connected with said depending rod and actuated by a moving car to shift the said depending bar 110 into engagement with the branch extension, whereby on the depressing of the tread bar, the said switch bar will be thrown to closed position, and means acting upon the tread bar for elevating the same for the depressing 115 thereof by the wheels of such moving car.

3. The combination with main and side rails, of a movable switch point for opening 120 and closing movements, a rocking shaft supported below the main rails, an arm formed on the said shaft and loosely connected with the switch point, a lateral branch extension formed on the rocking shaft at right angles to the said arm, a depressible tread bar pivotally connected to one of the main rails, 125 a rod depending from said tread bar and movable into and out of engagement with

the said branch extension, means connected with said depending rod and actuated by a moving car to shift the said depending bar into engagement with the branch extension, 5 whereby on the depressing of the tread bar, the said switch bar will be thrown to closed position, means acting upon the tread bar for elevating the same for the depressing thereof by the wheels of such moving car,

and means acting upon the depending rod 10 to move its operating mechanism to normal position.

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

ROY H. CONLEY.

Witnesses:

C. H. CRAWFORD,

E. J. GREENE.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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