

R. P. KIBLINGER.
RAILWAY SWITCH.
APPLICATION FILED SEPT. 29, 1909.

959,549.

Patented May 31, 1910.

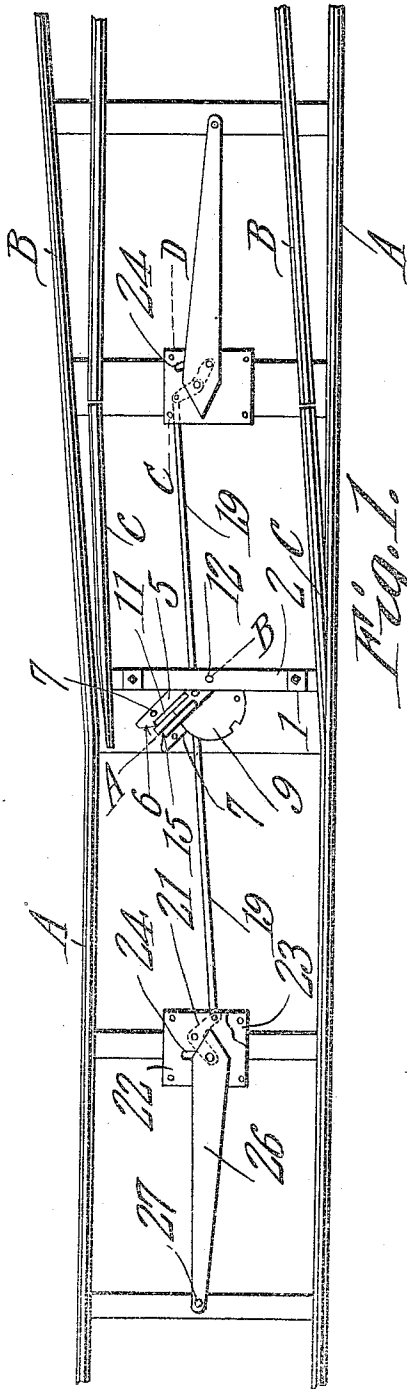


Fig. 1.

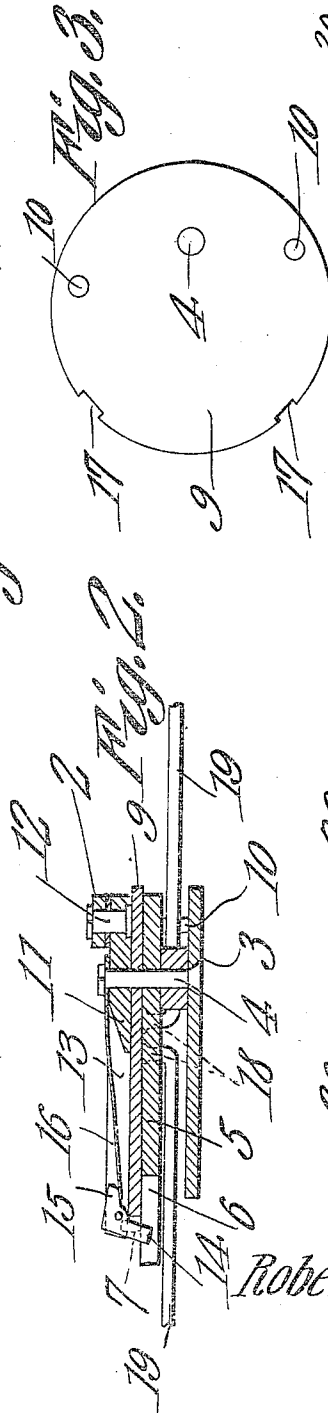


Fig. 2.

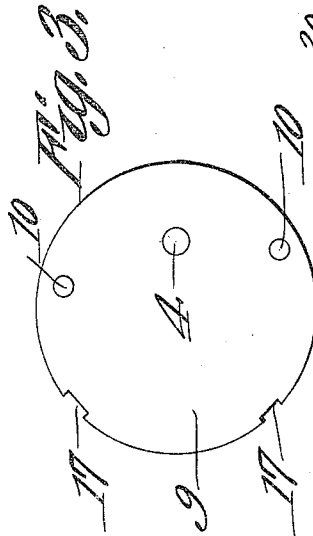


Fig. 3.



Fig. 4.

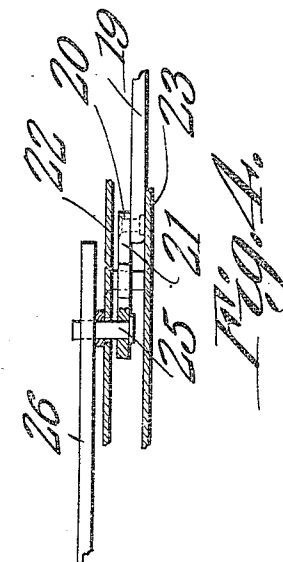


Fig. 5.

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Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT P. KIBLINGER, OF MINERAL, VIRGINIA.

RAILWAY-SWITCH.

959,549.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed September 29, 1909. Serial No. 520,158.

To all whom it may concern:

Be it known that I, ROBERT P. KIBLINGER, a citizen of the United States, residing at Mineral, in the county of Louisa and State of Virginia, have invented a new and useful Railway-Switch, of which the following is a specification.

This invention relates to railway switches and is more particularly designed as an improvement upon the structure described and claimed in an application filed by me on April 12, 1909, Serial No. 489,335.

One of the objects of the invention is to adapt the apparatus for use in connection with street railway systems and to simplify and otherwise improve upon the construction of the mechanism.

Another object is to provide novel means whereby the switch tongues can be simultaneously shifted by a car approaching a switch, the mechanism being sufficiently compact to permit it to be readily stored between the rails and below the treads thereof.

With these and other objects in view the invention consists of certain novel details of construction and the combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a plan view of the mechanism. Fig. 2 is an enlarged section on line A—B Fig. 1. Fig. 3 is a plan view of the notched plate. Fig. 4 is a transverse section on line C—D of Fig. 1. Fig. 5 is a plan view of a portion of a modified form of switch.

Referring to the figures by characters of reference A, A, designate the main line rails and B, B, designate the siding rails, there being opposed pivoted switch tongues C designed to alternately contact with the main line rails A so as to direct a car either along the main line or onto the siding. The two switch tongues are connected by a cross bar 1 having an upstanding intermediate portion 2 which bridges over the switch locking mechanism. A base plate 3 is fixedly secured below the bridging portion of bar 1 and has a fixed shaft or stud 4 extending upwardly therefrom and constituting a bearing for a releasing arm 5 which is mounted to swing about said shaft. A V-shaped recess 6 is formed in one end of said arm and upstanding lugs 7 extend from

the points of the forked end and are for the purpose hereinafter set forth. A top plate 9 is mounted above the base plate 3 and fixedly connected to it by means of connecting pins 10 and the shaft 4 extends through this top plate while the releasing arm 5 is interposed between the two plates.

A locking arm 11 is pivotally mounted on the upper end of the shaft 4 and has a stud 12 projecting upwardly from one end thereof, while a longitudinal slot 13 is formed in the other end of the arm. A dog 14 is pivotally mounted within the slot and extends below the arm 11, there being a pointed head 15 at the upper end of the dog and which is constantly acted upon by a spring 16. This spring serves to press the lower portion of the dog constantly against the periphery of the top plate 9, this plate being partly or entirely circular and having notches 17 in its periphery for the reception of the dog 14 upon the completion of the swinging movements of arm 11 in either direction. The lugs 7 project upwardly past the top plate 9 and lap opposite sides of the slotted portion of locking arm 11 but the distance between these lugs is slightly greater than the width of said arm. The upstanding stud 12 heretofore referred to projects into an opening formed in the bridging portion of bar 1.

Lugs 18 are pivoted in the releasing arm 5 and are formed on the adjoining ends of actuating rods 19 extending between the rails. The other ends of these rods are pivotally mounted upon studs 20 extending from the levers 21 which are pivotally mounted between top and bottom plates 22 and 23 located between the rails at points removed from the switch tongues. An arcuate slot 24 is formed in the top plate and a wrist pin 25 extends from the lever 21 and through the slot and into one end of a shifting tongue 26. This tongue is pivotally mounted at its other end as indicated at 27 and the movable point thereof is directed toward the switch tongues C.

It is to be understood that the dog 14 is normally seated in one of the notches 17, being held therein by the spring 16. When the dog is thus located one of the tongues C is pressed against the adjoining rail of the track. As long as the dog is within the notch the tongue is locked against movement. A car approaching the switch is designed to have a suitable tripping device to move

against either longitudinal edge of tongue 26 and when this tripping device is disposed in one position, it will ride against one longitudinal edge of the tongue and shift 5 the tongue laterally. The wrist pin 25 will thus be moved by the tongue longitudinally of its slot 24 and the lever 21 will be moved about its pivot so as to cause the stud 20 to shift the rods 19 longitudinally. As each 10 rod is connected to a stud 18 projecting from the releasing arm 5 it will be apparent that said arm will be swung laterally and one of the diverging edges of the fork 6 will move against the dog 14 and push it out of the 15 notch in which it is seated. Immediately subsequent to this action one of the lugs 7 on the moving arm 5 will come into contact with the locking arm 11 and will shift said arm laterally about its pivot, thus causing 20 the stud 12 to throw the bar 1 transversely of the track and thus shift the tongues so as to bring them into a position opposite to that in which they were first located. The tongue 26 and the arm 5 come to a sudden 25 stop just prior to the completion of the shifting of the tongues but the momentum imparted to the locking arm 11, bar 1, and tongues C is sufficient to cause these parts to continue to move until one of the tongues is 30 brought against the adjoining rail A. The spring pressed dog 14 thus moves off of the inclined or beveled end of the fork 6 and into position in front of the adjoining notch 17 into which it will promptly move, and 35 the tongues will thus be locked against further movement until the mechanism is again actuated through one of the tongues 26.

It will be seen that the mechanism herein described is very compact in construction, 40 simple and durable and can be readily located between the rails where it will occupy the minimum space. A suitable housing, not shown, can of course be provided to protect the mechanism from dirt, ice, snow, etc.

45 Instead of providing a centrally arranged tongue between the rails as indicated at 26, this tongue requiring the use of a special tripping means, the upstanding studs 25 on the levers 21 can be connected to the middle 50 portions of cross bars 28 the ends of which are pivotally connected to actuating strips 29 located close to the inner faces of the rails and mounted to swing upon pivots 30. It is the intention to locate these strips 29 in 55 such a relation to each other and to the rails as to cause the flanges of the car wheels to shift them and thus actuate the switch throwing mechanism. Obviously by utilizing this modified form of mechanism, which 60 has been illustrated in Fig. 5, a special tripping device upon the car can be dispensed with.

Various changes can of course be made in the construction and arrangement of the 65 parts without departing from the spirit or

sacrificing any of the advantages of the invention.

What is claimed is:

1. The combination with a notched stationary member, of a locking arm mounted 70 for swinging movement thereon, a locking device movably connected to the arm and normally seated in one of the notches to hold the arm against movement, a switch tongue, a connection between said arm and the 75 tongue, and car operated means movable in a plane parallel with the plane of movement of the locking arm for successively disengaging the device from the notch and shifting the locking arm to throw the switch 80 tongue.

2. The combination with a fixed notched member, of a locking arm mounted for swinging movement thereon, a locking device movably connected to the arm and nor- 85 mally seated within one of the notches, a switch tongue, a pivoted connection between the tongue and arm and car operated means for successively releasing the locking device from the notch and actuating the arm to 90 shift the tongue.

3. The combination with a fixed notched member, of a locking arm mounted for swinging movement thereon, a locking dog 95 carried by the arm and normally seated within one of the notches, a switch tongue, a pivoted connection between the tongue and arm and car operated means shiftable in one direction to successively disengage the dog from the notched member and shifting the 100 arm.

4. The combination with a fixed notched member of a locking arm pivotally mounted thereon, a spring controlled dog carried 105 thereby and normally seated within one of the notches, a switch tongue, a pivoted connection between the arm and tongue, a releasing arm, separate means thereon for successively disengaging the dog from the notched member and shifting the arm, and 110 car operated means for actuating the releasing arm.

5. A railway switch including a fixed notched member, a locking arm mounted for swinging movement thereon, a spring controlled dog carried by the arm and normally 115 seated within one of the notches, means actuated by the arm for shifting a switch tongue, a releasing arm pivotally mounted adjacent the notched member, separate means 120 upon said arm for successively engaging the dog and locking arm to release the dog and shift the arm, and car operated means for actuating the releasing arm.

6. A railway switch including a stationary 125 notched structure, a locking arm mounted for swinging movement, means actuated by the arm for shifting a switch tongue, a movable locking member carried by the arm and normally engaging the notched structure, 130

and car operated means for successively releasing said device and shifting the arm.

7. A railway switch including a stationary notched structure, a locking arm movably mounted adjacent thereto, tongue actuating means connected and operated by the arm, a spring controlled locking dog carried by the arm and normally engaging the notched structure, a releasing arm having opposed dog deflecting portions, locking arm engaging devices upon said actuating arm and

spaced apart a distance greater than the width of the locking arm, and car actuated means for shifting said actuating arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT P. ^{his} × KIBLINGER.
mark

Witnesses:

ROLAND C. BOOTH,
C. E. DOYLE.