

No. 823,764.

PATENTED JUNE 19, 1906.

C. F. COMER & H. LIGHTCAP.
RAILWAY SWITCH.

APPLICATION FILED NOV. 4, 1905.

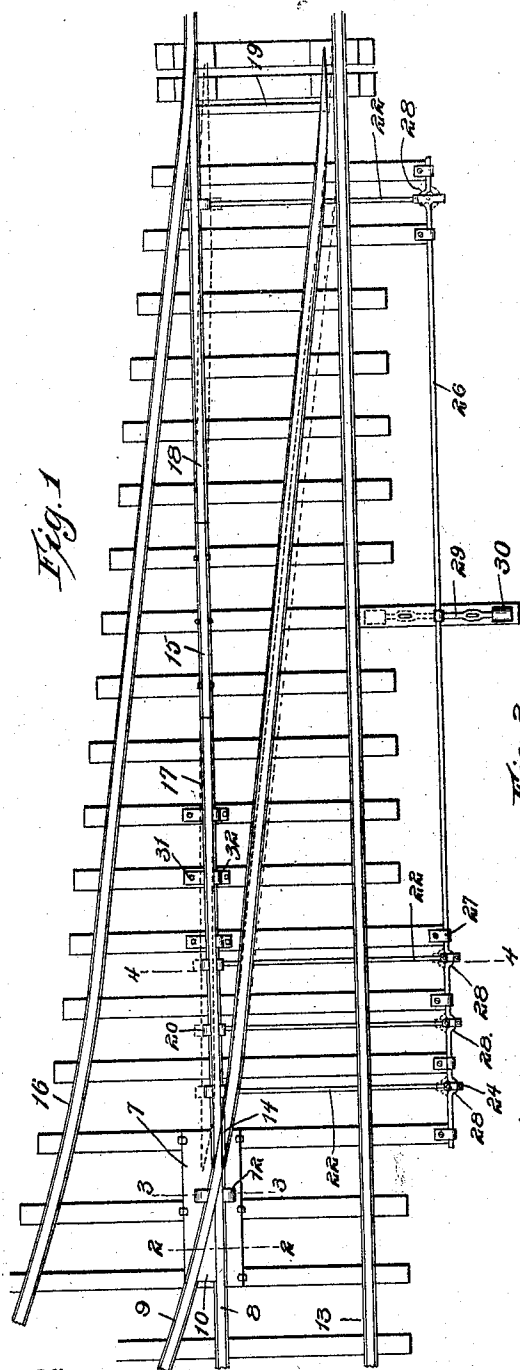


Fig. 1

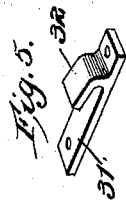


Fig. 5.

Fig. 6.

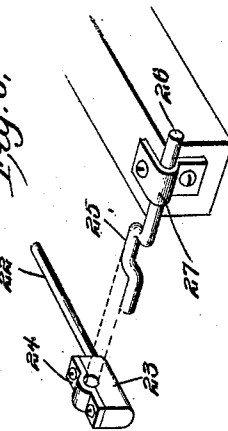


Fig. 3

Fig. 2.

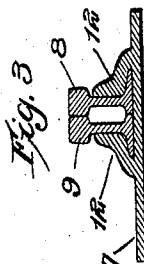


Fig. 4.

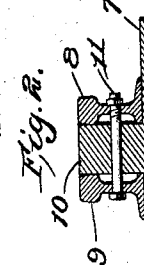
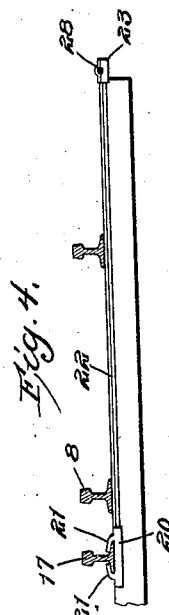


Fig. 4.



Witnesses

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RAILWAY-SWITCH.

No. 823,764.

Specification of Letters Patent.

Patented June 19, 1906.

Application filed November 4, 1905. Serial No. 285,888.

To all whom it may concern:

Be it known that we, CHARLES F. COMER and HARRY LIGHTCAP, citizens of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Railway-Switches; and we do hereby 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.

Our invention relates to railway-switches; and its object is to provide a simple and durable device of this character which is effective under all weather conditions and which can be readily operated to open or close the switch, the operating mechanism having means whereby the switch is maintained at all times in either one or the other of these positions, so that there is no danger of the switch not being thrown the proper distance when it is desired to open or close it.

The invention consists of certain novel features of construction and combination of parts, which will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings we have shown the preferred form of our invention.

In said drawings, Figure 1 is a plan view of our improved switch and showing in dotted lines the positions assumed by the parts when the switch is open. Fig. 2 is a section on line 2 2, Fig. 1. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a section on line 4 4, Fig. 1. Fig. 5 is a detail view of one of the stop-plates, and Fig. 6 is a perspective view of a portion of the actuating-rod and one of the shifting arms.

Referring to the figures by numerals of reference, 7 is a bed-plate which extends under the two intersecting rails 8 and 9 of the switch, and that portion of the plate between the rails extends upward therebetween, as shown at 10, and the rails are secured to this upwardly-extending portion by means of bolts 11, and holding-blocks 12 are formed upon the plate adjacent the apex of the intersecting rails and engage their base-flanges, so as to prevent displacement thereof. The rail 9 does not terminate at its point of connection with the rail 8, but instead extends across the main track 13 and has its end free to move laterally, while a groove 14 is formed within it close to the rail 8, so that the flanges of wheels passing over the main line will

move within this groove and permit cars to pass smoothly over the switch. Secured to the ties in alinement with the inner rail 8 of the main track is a rail-section 15, which is located, preferably, midway between the inner rail 9 and the outer rail 16 of the siding, and secured to the ends of this section 15 are rail-sections 17 and 18, the ends of which are free to swing laterally. The free end of the section 17 is shaped so as to fit snugly against the adjoining face of the end of rail 9, so as to aline with the rail 8, and the free end of the section 18 is also shaped so as to fit snugly against the outer rail of the main track at its point of conjunction with the rail 16, so as to lie in alinement with the rail 8. The free end of rail-section 18 is connected to the laterally-movable section of rail 9 by means of a cross-bar 19, and extending under said rail-section 18 near its point is a chair 20, having flanges 21, which engage the base-flanges of the rail 18. A rod 22 extends from the chair 20 and has a block 23 at one end, on which is mounted a strap 24, and this strap and block constitute a bearing for the crank 25, formed within a rod 26, which extends parallel with the track and is suitably journaled in bearings 27, mounted on the ties or other supports. Preferably three cranks 28 are formed by the rod near its other end, and these cranks are all engaged by bearings 23 and 24, formed at the ends of rods 22, extending from chairs 20, which engage the rail-section 17 near its point. The cranks 28 are arranged opposite to the crank 25, so that when the rod 26 is rotated crank 25 will throw its rod in one direction, while the remaining cranks will throw their rods in the opposite direction simultaneously. An arm 29 is secured to the rod 26 and lies in the same plane with the cranks 25 and 28, so that when said arm is in a vertical position the cranks are also in vertical positions and the switch is open. However, to maintain this position of the arm is impossible, because the same is provided at its end with a weight 30, so that said arm is compelled to assume a horizontal position on one side or the other of rod 26. Stop-plates 31 are secured to the ties under the rail-section 17 and have hooked ends 32, which overlap one of the base-flanges of said section, so as to limit the movement of the section in one direction when the same is pulled on by the rods 22.

It is thought that from the foregoing description the operation of the switch will be

apparent. When arm 29 is swung inward toward the track, the weight 30 will cause it to assume a horizontal position, and the crank 28 will pull its rod 22 laterally, so as to swing the rail-section 18 and the extension of rail 9 laterally, so that said extension will contact with the outer rail of the main track, as shown by dotted lines in Fig. 1. Simultaneously with this movement the cranks 28 press inward on their rods 22 and swing the rail-section 17 laterally away from rail 9 and into the position shown by dotted lines. Cars moving toward the switch will therefore be directed onto the siding, and ample space will be provided between the points of rail-sections 17 and 18 and the adjoining rails to allow the flanges of the car-wheels to pass therebetween. To close the switch, the arm 29 is swung away from the track and the parts will then promptly assume the positions shown by full lines. When the parts are thus located, a car approaching the switch will move past it and along the main line and the flanges of its wheels will pass through the grooves 14.

It will be seen that the switch is very durable in that it is formed of very few parts and there is nothing about it to get out of order.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch the combination with the rails of a siding and main line, the inner rail of the main line terminating at its point of intersection with the inner rail of the siding; of an extension to the inner rail of the siding extending between the rails of the main line and adapted to be swung laterally into contact with the outer rail of the main line, and rail-sections secured at their adjoining ends between the rails of the siding and in alinement with the inner rail of the main line, and means for simultaneously shifting one of the rail-sections and the rail extension and the other rail-section in opposite directions to open or close the switch.

2. The combination with the rails of a main line and siding, the inner rail of the main line terminating at its point of intersection with the inner rail of the siding; of an extension to the inner rail of the siding extending in close proximity to, and adapted to move laterally into contact with, the outer rail of the main line, oppositely-extending rail-sections secured between the rails of the siding and in alinement with the inner rail of the main line, said sections having their points free and capable of swinging laterally, chairs engaging the rail-sections adjacent their points, and means for simultaneously moving the points in opposite directions to

open or close the switch, the rail extension being connected to and movable with one of the points.

3. The combination with the rails of a main line and siding, the inner rail of the main line terminating at its point of intersection with the inner rail of the siding; of an extension to the inner rail of the siding extending in close proximity to, and adapted to move laterally into contact with, the outer rail of the main line, oppositely-extending rail-sections secured between the rails of the siding and in alinement with the inner rail of the main line, said sections having their points free and capable of swinging laterally, chairs engaging the rail-sections adjacent their points, a rotatable rod adjacent the rails and having oppositely-extending cranks, means connecting the cranks and chairs, and a weighted actuating-arm secured to the rod adapted to rotate and hold the same to simultaneously shift the points of the rail-sections to open or close the switch, the rail extensions being connected to and movable with one of said points.

4. The combination with the rails of a main line and siding, the inner rail of the main line terminating at its point of intersection with the inner rail of the siding; of an extension to the inner rail of the siding extending in close proximity to, and adapted to move laterally into contact with, the outer rail of the main line, oppositely-extending rail-sections secured between the rails of the siding and in alinement with the inner rail of the main line, said sections having their points free and capable of swinging laterally, chairs engaging the rail-sections adjacent their points, a rotatable rod adjacent the rails and having oppositely-extending cranks, means connecting the cranks and chairs, a weighted actuating-arm secured to the rod adapted to rotate and hold the same to simultaneously shift the points of the rail-sections to open or close the switch, the rail extensions being connected to and movable with one of said points, a bed-plate extending under and engaging the intersecting portions of the inner rails of the main track and siding, and stop-plates extending under one of the rail-sections and adapted to limit its movement in one direction.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHAS. F. COMER.
HARRY LIGHTCAP.

Witnesses:

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