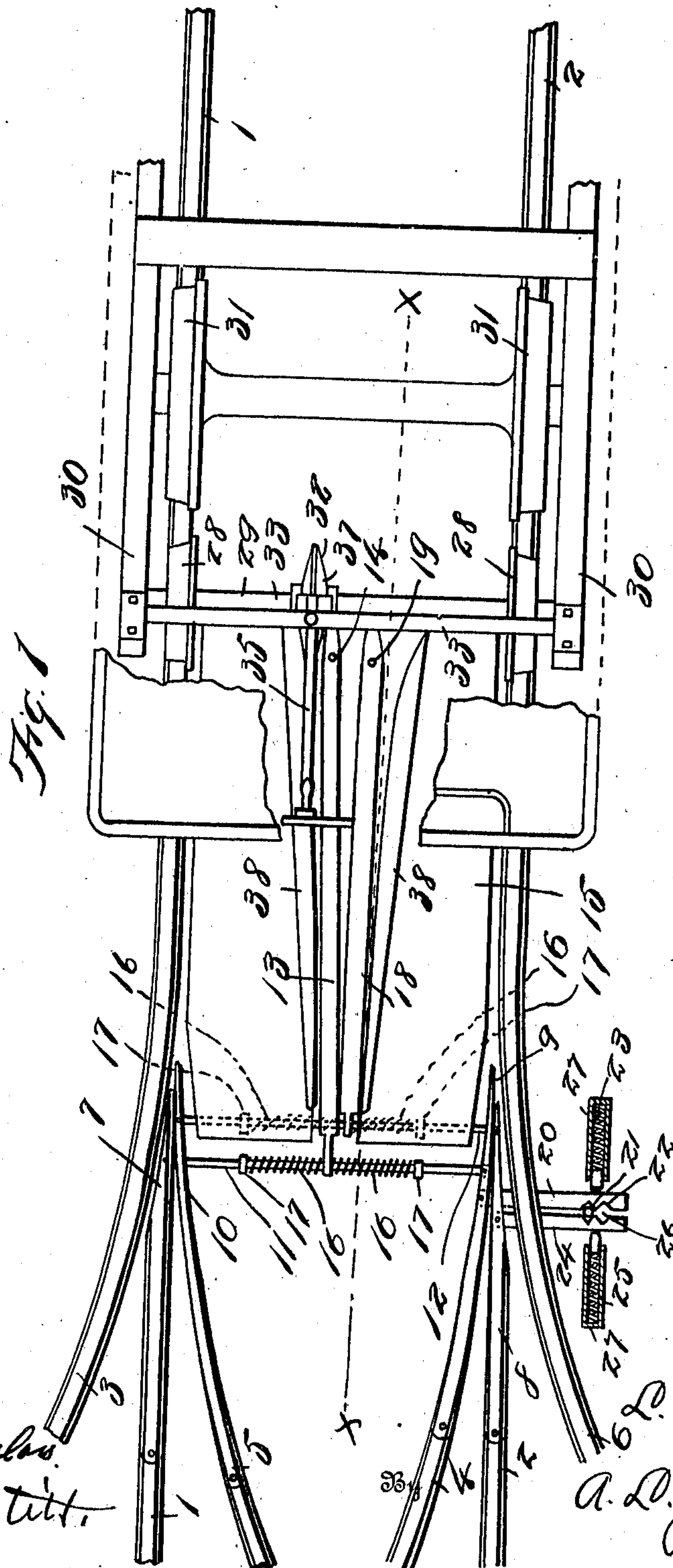


L. A. SYDNOR.
RAILWAY SWITCH.
APPLICATION FILED JULY 23, 1910.

988,673.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.



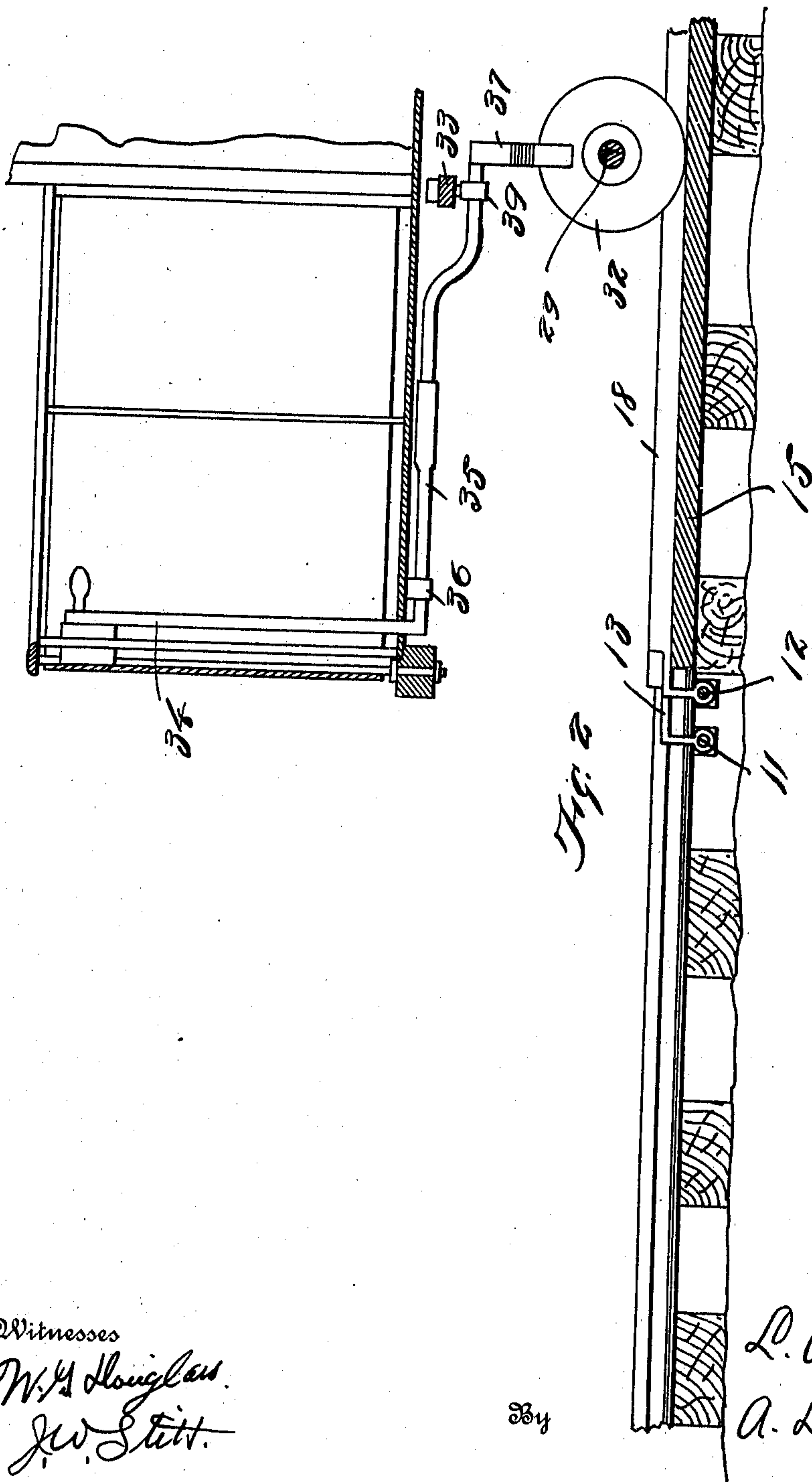
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UNITED STATES PATENT OFFICE.

LESLIE A. SYDNOR, OF FORT WORTH, TEXAS.

RAILWAY-SWITCH.

988,673.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed July 23, 1910. Serial No. 573,466.

To all whom it may concern:

Be it known that I, LESLIE A. SYDNOR, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to switching devices, and more particularly to switching devices for street railways, and the object is to provide simple devices which are easily operated whereby a motorman or other person can turn the switches in a track without stopping his car. No changes are made in the switch tongues, but devices are connected to the switch tongues and arranged between the rails to be actuated by devices carried by the cars.

Means are also provided for preventing accidental displacement of the switch tongues when set for turning the car in a determined direction.

Means are also provided for preventing accidents in case obstructions prevent the turning of the switch tongue.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claim.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a plan view of a railway track at the switching points, showing the devices for turning the switch tongues and showing portions of a car and the devices carried by the car for actuating the switch turning devices. Fig. 2 is a longitudinal vertical section of a portion of a track and of a car, illustrating the manner of operating the switch tongues.

Similar characters of reference are used to indicate the same parts throughout the several views.

A railway track provided with branch roads running in opposite directions is shown in the drawings.

1 and 2 indicate the tracks or rails of the main line. 3 and 4 indicate the rails of a branch road and 5 and 6 indicate the rails of another branch road. The rails 1 and 2 are provided with switch tongues 7 and 8. Track or rail 4 has a switch tongue 9 and rail 5 has a switch tongue 10. One of the tongues of the main line rails is used with a tongue of one of the branch line rails to

switch to one branch line and the other tongue of the main line rail is used with the tongue of the other branch line to switch to this other branch line. A rod 11 is pivotally connected to the tongues 7 and 9 and a rod 12 is pivotally connected to the tongues 8 and 10. Each rod will move two tongues simultaneously. The rods 11 and 12 will be called throw rods or switch throwing rods.

Means are provided for shifting the rods 11 and 12. A shifting bar 13 is pivotally mounted on a base or platform 15. The bar 13 is pivoted at 14 and the forward part of the bar is bent down and provided with an eye which receives the rod 11. The bar 13 may be vibrated on the platform 15 at the forward end of the bar and with the bolt 14 as a pivot. A spiral spring 16 is mounted on the rod 11 on each side of the bar 13 and nuts or collars 17 are fixed on the rod 11 so that the spiral springs 16 can be made to bear more or less on the bar 13. These springs are safety devices but serve normally to actuate the rod 11. But in case of accident the springs will yield so that the bar 13 can move without moving the rod 11. A stone or other object might fall in position to prevent the movement of the rod 11. For instance, a stone might fall or be thrown between the tongue 7 and the rail 3. The tongue 7 could not be pressed against the rail 3. The bar 13 could be pressed toward the rail 3 because the spring 16 would yield. This would prevent the breaking of anything. Springs 16 and nuts or collars 17 are adjustably mounted on the rod 12 for a similar purpose. The rod 11 is thus used to send a car on the main line or on the branch line composed of rails 3 and 4. In a similar manner the rod 12 will send a car on the main line or on the branch line composed of the rails 5 and 6. A shifting bar 18 is mounted on the platform 15 and pivoted thereon at one end by a pivot bolt 19 and connected to the rod 12 by means of a bent portion thereof which has an eye for engaging the rod 12.

Means are provided to prevent accidental shifting of the rail tongues above described. A bar 20 is pivotally connected to the tongue 9 and extended out to one side of the track. An upstanding rod 21 is mounted rigidly at a point close to the outside rail. The rod 20 has two or more notches 22 to engage the locking post or rod 21. The bar 20 is pressed against the post 21 by a spiral

spring 23 which bears against the edge of the bar 20. The spring 23 will press against the bar 20 with sufficient force to prevent accidental displacement of the switch tongues 5 but will yield to allow shifting or throwing of the switch tongues by means hereinafter described. In a similar manner a bar 24 is pivotally connected to the tongue 8 and provided with notches 26 to engage the post 21 10 and pressed against said post by a spring 25. The springs 23 and 25 may be provided with cases 27 for their protection.

The shifting bars 13 and 18 are actuated by devices carried by the car. Two wheels 15 28 are provided with an axle 29 which is journaled in bearings 30 and adapted to run on the railway tracks in front of the car wheels 31. A throw wheel 32 is loosely mounted on the axle 29 and movable axially 20 thereon. A lever 34 is provided in convenient reach of the motorman. This lever 34 engages a rocker-shaft 35 which is provided with a bearing 36 which may be pivotally connected with the bottom of the car. 25 A bar 33 is attached to the supports 30. A bearing 39 is pivotally mounted on or pivotally connected to the bar 33 for the shaft 35.

The object of the pivotal connection of 30 the bearing 39 with the bar 33 is to permit turning of the front end of the shaft 35. The bar 33 is rigid with the trucks and the bearing 36 is connected with the car body. The front of the car will vary in making 35 turns and it is necessary that the bearing 39 be near the shaft or axle 29. The shaft 35 may be made telescopic so that it will be adjustable longitudinally. The shaft carries a yoke 37 which engages the throw 40 wheel 32. By means of the lever 34, the motorman can shift the wheel 32 to different positions on the axle 29. Guard bars 38 are rigidly mounted on the base 15 and the bars 13 and 18 will vibrate between the bars

38. The bars 38 and 13 and 18 are flared or 45 spread at their receiving ends. By means of the lever 34 the motorman can send the wheel 32 between the bars 13 and 18 or on the outside of these bars. If the wheel 32 is directed between the guard bar 38 and the 50 shifting bar 13, the tongues 7 and 9 will be thrown to send a car on the tracks 3 and 4. If the wheel 32 is directed between the bars 13 and 18, tongues 7 and 8 will be thrown to send a car on the main line. If the wheel 55 is directed between the bar 18 and bar 38, the tongues 8 and 10 will be shifted to send a car on the line composed of tracks 5 and 6. The motorman can with the lever 34 direct a car to any one of the lines without stop- 60 ping the car to turn the switch.

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

In a railway provided with a main line 65 and branch lines: switch tongues for both rails of the main line and one switch tongue for each of the branch lines, a rod connecting one of the tongues of the main line and the tongue of one of the branch lines and a 70 rod connecting the other tongue of the main line with the tongue of the other branch line, a shiftable bar for each rod pivotally mounted at one end and engaging the rod at the other end, stationary bars cooperating 75 with said shiftable bars, a shiftable roller carried by a car for actuating said shiftable bars, and a yoke carried by the car for shifting said roller to actuate said bars selectively. 80

In testimony whereof, I set my hand in the presence of two witnesses, this 2nd day of July, 1910.

LESLIE A. SYDNOR.

Witnesses:

A. L. JACKSON,
L. T. KNIGHT.