

(No Model.)

G. A. SCHMITTUS.
AUTOMATIC SWITCH.

No. 552,622.

Patented Jan. 7, 1896.

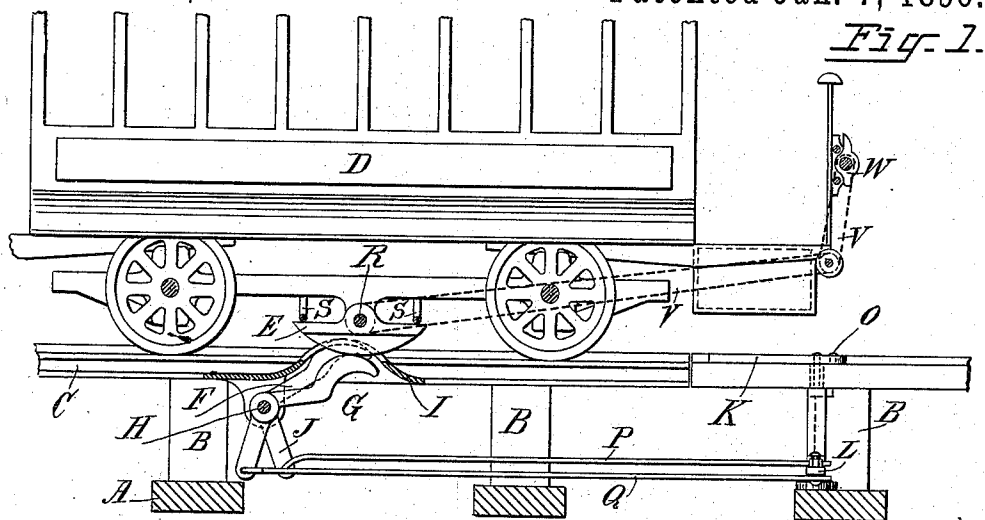


Fig. 1.

Fig. 2.

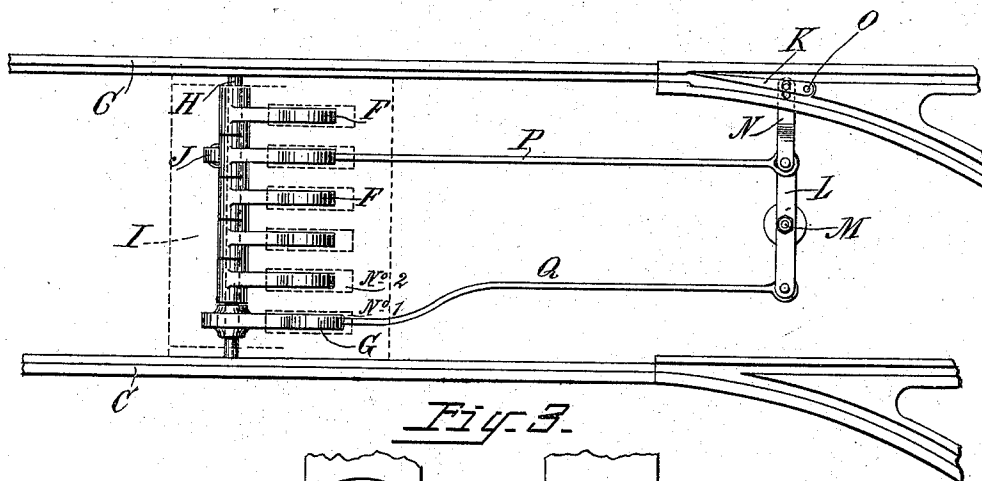
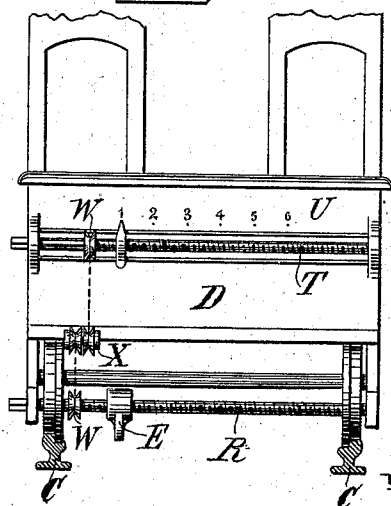


Fig. 3.



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GEORGE A. SCHMITTUZ, OF BROOKLYN, NEW YORK.

AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 552,622, dated January 7, 1896.

Application filed August 29, 1895. Serial No. 560,948. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. SCHMITTUZ, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Automatic Switch, of which the following is a specification.

My invention relates to automatic switches especially adapted for use upon street-railways, though they may be used upon any car-track.

The object of the invention is the production of mechanism by which a car as it approaches a switch shall automatically set the switch-point in the desired position. It is especially useful on those sections of street-railway which are traversed by cars of several different lines which switch off said section at various places. By the use of this automatic switch the necessity of employing men at the various switches will be obviated, and likewise where men are not so employed the necessity of stopping a car for shifting the points will be obviated. Automatic devices have heretofore been devised for this purpose, but because of their expensiveness or impracticability they have not, so far as I am aware, gone into general use.

My invention embodies mechanism connected to the point for throwing it back and forth on its pivot, a device carried by the car for operating said mechanism, and means for shifting said device into different positions on cars of different roads. I also employ an indicator on each car to show in what position said device is placed.

With these objects in view my invention consists in the construction and combination of parts, as hereinafter fully described, and set forth in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 represents my invention as applied to a street-railway, the track mechanism and a portion of the car carrying the tripping device being shown in side elevation. Fig. 2 is a plan of the track mechanism. Fig. 3 is an end view of the car, showing the indicator and the tripping device.

A indicates the ties, B the rail-chairs, and C the rails mounted thereon, while D indicates a street-car and E the tripping-shoe carried thereby.

The track mechanism consists of a series of tripping-levers F and G, of substantially the form indicated, mounted upon a horizontal shaft, as at H. The upper ends of these levers are housed in a curved slotted plate I, which may be suitably secured between the rails, the curved portion projecting above the rails sufficiently to house the tripping-levers and to provide for placing the shoe E at such a height as to clear the pavement and crossings. The shaft H is journaled at its ends in suitable bearings, preferably formed integral with the plate I. The tripping-levers F are rigidly connected to this shaft, while the tripping-lever G is loose upon the shaft. From one of the levers F there projects downwardly an arm J.

At the switch-point (indicated at K) is a toggle consisting of a lever L, mounted upon a suitable pivot M, secured to a tie or other support, and a link N, which is pivoted to the switch-point K in advance of its hinge O, as indicated, the pivot passing through a slot in the frog which supports said point. To the middle or joint of this toggle is pivoted a connecting-rod P, to which the lower end of arm J is connected. At the end of lever L opposite the joint of the toggle is pivoted a similar connecting-rod Q, which extends to and connects with the tripping-lever G. From this construction it will be seen that as lever G is depressed and its lower end swung to the left lever L will be rocked, so as to throw the joint of the toggle to the right, thereby forcing the point K outward into position to direct the car onto the branch, which is the position shown in the drawings. This movement of the toggle acts through rod P to rock the shaft H and throw the tripping-levers F up. Then as any one of the levers F is depressed shaft H will again be rocked, swinging arm J to the left and the joint of the toggle in the same direction, thereby throwing the point into position for opening the main line. This movement of the toggle and its lever L will through the rod Q cause lever G to be again elevated and so left in position to again open the branch track.

The mechanism carried by the car for operating upon the tripping-levers consists of the tripping-shoe E, provided with a screw-threaded aperture and located upon a screw-

shaft R, journaled in suitable bearings upon the car or its truck, preferably upon the equalizing-bars, so that it shall have the least amount of vertical movement. This screw-shaft may be squared at its end for the reception of a crank by which it may be rotated, any suitable means, such as bars S, being extended from one side of the truck to the other in close proximity to said shoe to prevent its being rotated when said shaft R is turned.

That the position of the shoe may readily be determined at a glance, I provide upon the end of the car, preferably in front of the dash, an indicator which may be of any suitable form, but which I have illustrated as consisting of a screw-shaft T, journaled in suitable bearings upon the dash and squared at its end for the reception of a suitable crank. Upon this shaft is a pointer having a screw-threaded hub, so that as the shaft T is rotated the pointer will move along a scale. (Indicated at U.)

The indicator may be made to move in unison with the shoe by any suitable connection; but for the sake of illustration I have shown this connection as consisting of a chain or cord V, passing around sprocket-wheels or sheaves (indicated at W) upon the shafts R and T, and sheaves X, mounted upon a counter-shaft, as indicated.

I have illustrated my invention as applied to a section of track common to six different lines, or to a section of track from which six different branches lead.

The tripping-levers F perform the function of throwing the point to open the main line, while the tripping-lever G throws the point in the opposite direction—that is, into a position to open a branch. In the track mechanism illustrated the lever G is shown in slot No. 1, and the car destined for the first branch will have its shoe so set as to engage lever G. All the other cars will have their shoes set for their respective branches and will operate upon the levers F at the first switch, which will close the first branch to them in case the car ahead of them has passed onto that branch. At branch No. 2 the lever G would be placed in slot No. 2, and the shoe on the car destined for that branch will pass through said slot and engage said lever, thereby opening the respective branch, and so on, the shoe of each car engaging a lever G at only that branch for

which the car is destined and engaging levers F at all the other branches.

If before starting the car out it is desired to send it off from the main line at a different branch than that on which it has previously traveled, it is only necessary to either rotate the shaft R or the shaft T until the indicator points to that particular branch on which the car is to be sent, the indicator signifying that the shoe E is properly located for that branch.

Many changes in form, construction, and arrangement of the several parts illustrated may be made without departing from my invention.

What I claim as my invention is—

1. The combination with a switch point, of a rock-shaft, a series of tripping levers rigidly connected thereto, a tripping lever loosely mounted on said shaft, connections from the rock shaft and loosely mounted tripping lever respectively to the switch point for throwing it in opposite directions, and a laterally adjustable shoe upon a car for automatically operating upon said tripping levers.

2. The combination with the switch point, of the link pivoted thereto, the rocking lever to which said link is pivoted, the shaft provided with a rocking arm and having a series of tripping levers rigidly mounted thereon, a tripping lever loosely mounted on said shaft, a connection between the rocking arm and one end of the rocking lever, a similar connection between the loosely mounted tripping lever and the other end of the rocking lever, a screw-threaded shaft extending transversely of the car and a laterally adjustable tripping device mounted thereon for engagement with a predetermined one of said levers.

3. The combination with the automatically movable switch point, of a series of tripping levers therefor, a tripping device mounted upon a car and having a laterally adjustable tripping shoe, and an index mounted upon the car and operatively connected to the tripping device to indicate the position of the shoe.

Signed at Brooklyn, in the county of Kings and State of New York, this 20th day of August, A. D. 1895.

GEORGE A. SCHMITTUS.

Witnesses:

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