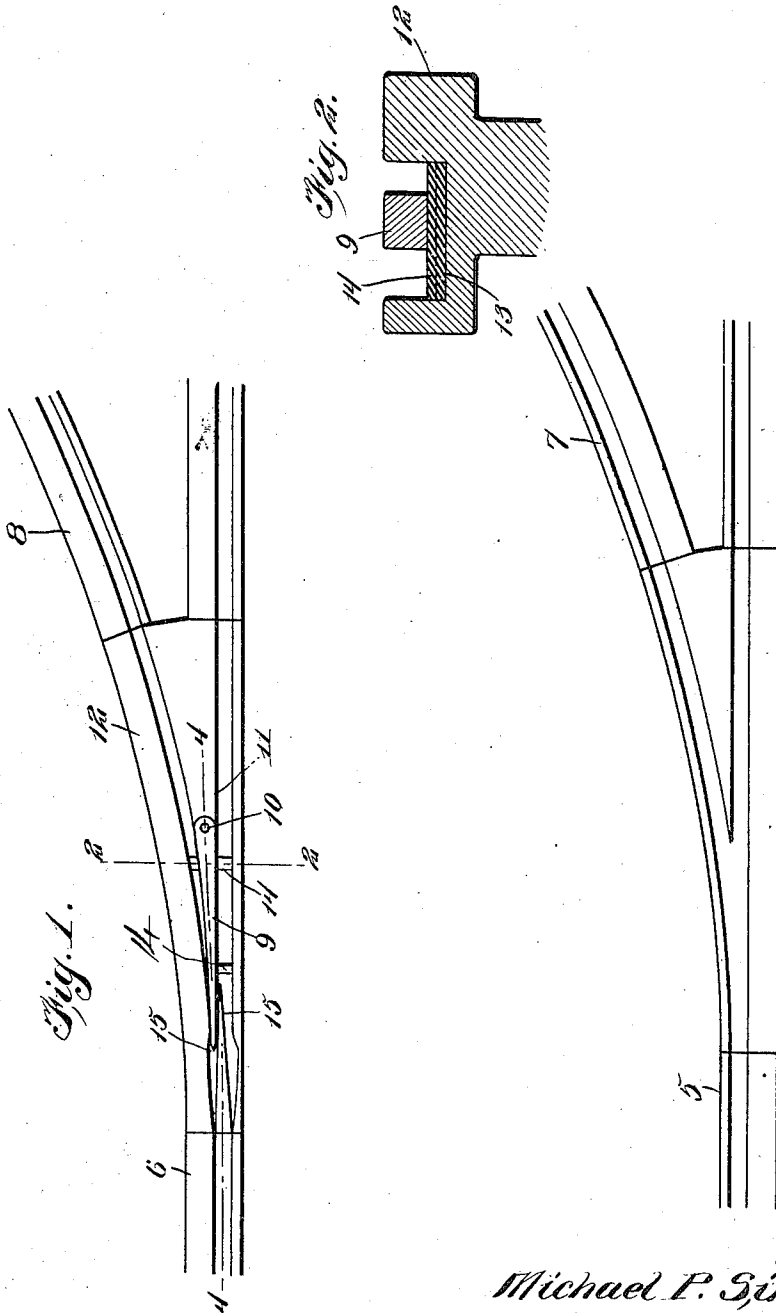


M. P. SIMAS.
 SWITCH MECHANISM.
 APPLICATION FILED SEPT. 30, 1911.

1,059,776.

Patented Apr. 22, 1913.

2 SHEETS—SHEET 1.



Witness.

Louis R. Heinrichs
M. O. Van der

Inventor
Michael P. Simas

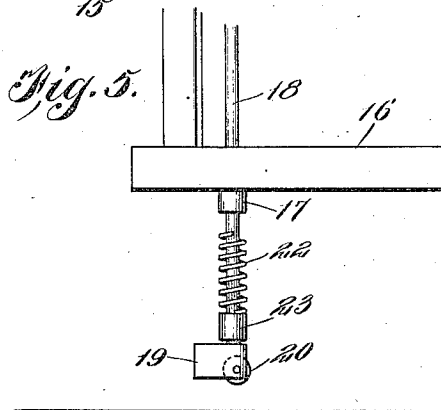
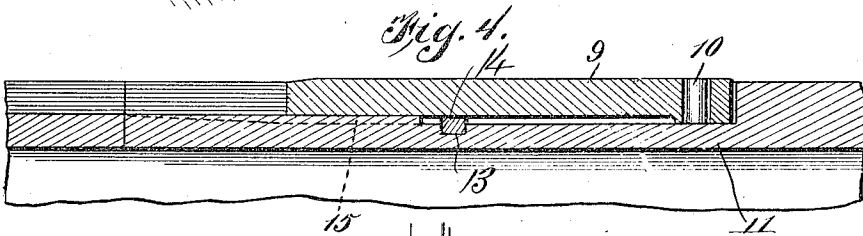
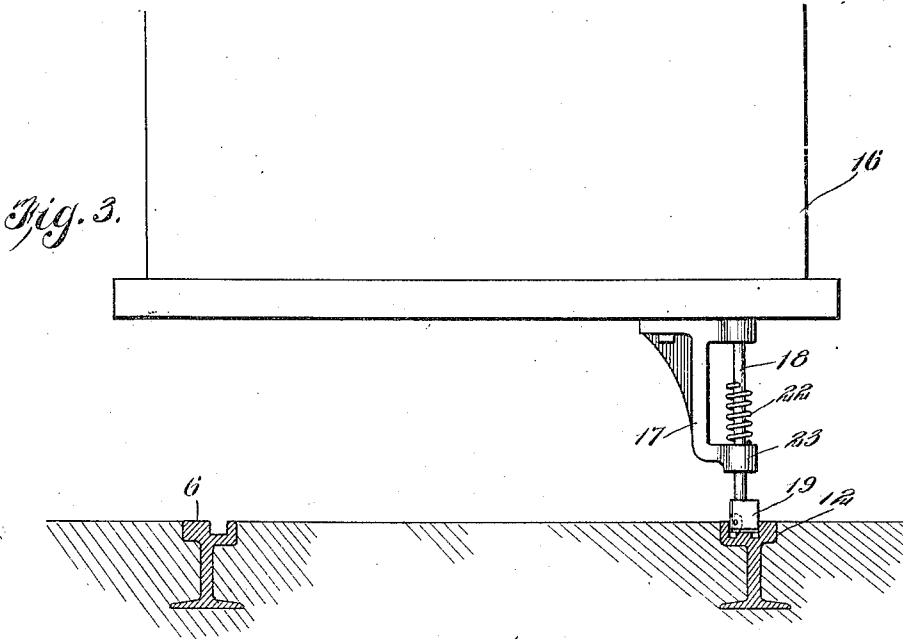
By *Victor J. Evans*
 Attorney

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Inventor
Michael P. Simas

Witnesses

Louis R. Heinrichs
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 Attorney

UNITED STATES PATENT OFFICE.

MICHAEL P. SIMAS, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF ONE-SEVENTH TO JULIO VASCONCELLOS, ONE-SEVENTH TO JOAO SIMAS, ONE-SEVENTH TO ANTONIO SIMAS, ONE-SEVENTH TO MANUEL SIMAS, ONE-SEVENTH TO FRANK ENOS, AND ONE-SEVENTH TO JOSEPH SANTOS, ALL OF NEW BEDFORD, MASSACHUSETTS.

SWITCH MECHANISM.

1,059,776.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed September 30, 1911. Serial No. 652,077.

To all whom it may concern:

Be it known that I, MICHAEL P. SIMAS, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Switch Mechanism, of which the following is a specification.

The invention relates to switches, and more particularly to the class of railway switches and operating mechanism therefor.

The primary object of the invention is the provision of a switch in which the same is operated from a car, so that the latter may continue either upon a main line or enter a branch line, without requiring the service of a switchman or other operator at the switch.

Another object of the invention is the provision of a switch of this character in which the same may be shifted; thus opening or closing it to permit the moving car to enter the side track or continue along the main line, the switch, when thrown, being held against accidental displacement, so as to avoid derailment of the car at the switch.

A further object of the invention is the provision of a switch, the same being operated upon directly from the moving car, thereby avoiding the necessity of stopping the car at the switch for the shifting of the same, and also the assistance of a switchman or other operator.

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

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 claim hereunto appended.

In the drawings: Figure 1 is a fragmentary top plan view of main and side lines, intersecting each other, showing the switch constructed in accordance with the invention applied thereto. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a front elevation of a car upon the main line, showing the switch controlling mechanism

mounted thereon, and in position for operating the switch. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is a fragmentary side elevation of a car, showing the switch throwing mechanism mounted thereon.

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

Referring to the drawings by numerals, 5 and 6 designate the rails of the main line, and 7 and 8 the rails of the side or branch line, which intersect the rails of the main line in the usual well-known manner. At the point of intersection of the rail 8 of the side or branch line with the rail 6 of the main line is arranged a switch, presently described.

The switch comprises a movable switch point 9, the same being loosely connected upon a pivot pin 10 rising from an extension 11 formed at the smaller end of a frog 12, the latter being designed to connect the rail 6 of the main line to the rail 8 of the branch line and is of the ordinary well-known construction, the switch point 9 being sufficiently loose upon the pivot 10 to allow a slight vertical movement of the said point 9 and prevent binding of said point against the pin, whereby it may be depressed by the car wheels when traveling thereover, for a purpose presently described.

At a point spaced from the smaller end of the frog 12 and formed in the rail 6 is a pocket or recess 13, in which is fitted a resilient cushioned block 14, on which rests the switch point 9, the resilient block 14 being designed to frictionally hold the said switch point in its thrown position, and thereby prevent the accidental shifting of the switch point after being moved, in a manner presently described.

The switch point 9, when depressed by the car wheels, is adapted to enter either one of a pair of converging channels 15 formed in the grooved portion of the rail 6 of the main line, thereby obviating any possibility of displacement of the switch point when depressed by the car wheels passing thereover, the switch point being thrown to either open or close the switch, whereby a car may enter a branch line or continue along the main line, as is usual, it being

understood that after the car wheels have passed over the same, the block 14, by reason of its resiliency, will raise the switch point out of engagement with the channel 15 in which it is raised.

Adapted to travel over the main or branch rails is a car 16, on the front end of which is fixed a depending U-shaped bracket 17, the limbs of which are provided with suitable alining openings, in which is slidably mounted a depressible stem or rod 18, on the lower end of which is fixed a wedge-shaped shoe 19, the heel portion carrying a friction roller 20 journaled upon a stud spindle 21 mounted in the shoe 19, the shoe being cut away to accommodate the roller 20 which is adapted to contact with the base of the wheel flange-receiving groove in the rails 6 or 8, and the shoe at this pointed end is adapted to engage the pointed end of the switch point 9, so as to throw it either to opened or closed position, as may be required.

Surrounding the stem or rod 18 is a coiled expansion spring 22, the upper end of which is fixed to the said stem or rod, while its lower end has its bearing against the lower limb 23 of the bracket, the spring being designed to normally sustain the shoe 19 elevated above the rails of the track. The stem or rod 18 extends upwardly through the platform of the car 16 to a required elevation, so that it may be manipulated by the trainman, as will be obvious, it being understood, of course, that the rod or stem may be thrown so as to position the shoe relative to the switch point 9 to effect the shifting thereof either to opened or closed position, and in this manner the car may continue along the main line or be caused to enter the branch line.

It will be apparent that the trainman need not stop the car on approaching the switch, nor will it be necessary to employ a switchman for controlling the switch, as the switch may be thrown by the trainman or operator of the car through the medium of the switch throwing mechanism carried by the car.

The rod 18 of the switch throwing mechanism, at its upper end, has a handle (not shown) which may be grasped by the motorman or operator of the car, so that upon turning the said handle, either to the right hand side or left hand side, the shoe 19 may be properly positioned for engagement with the switch point, when the said rod has been depressed, thereby enabling the switch point to be thrown for the opening or closing of the switch, as will be obvious. Of course, it is understood that the rod 18 is provided with suitable stops (not shown), so as to limit the rotary movement thereof to prevent the shoe 19 from being thrown too far to either side when operated for the throwing of the switch point.

What is claimed is:

The combination with main and branch lines intersecting each other, said main line being provided with a pair of converging channels, of a switch point adapted to engage in either of said channels when depressed, and a resilient medium disposed beneath said switch point for frictional engagement therewith, for disengaging the latter from said channels when the same are not depressed.

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

MICHAEL P. SIMAS.

Witnesses:

EDWARD E. CLARKE,
FRANK L. ROGERS.