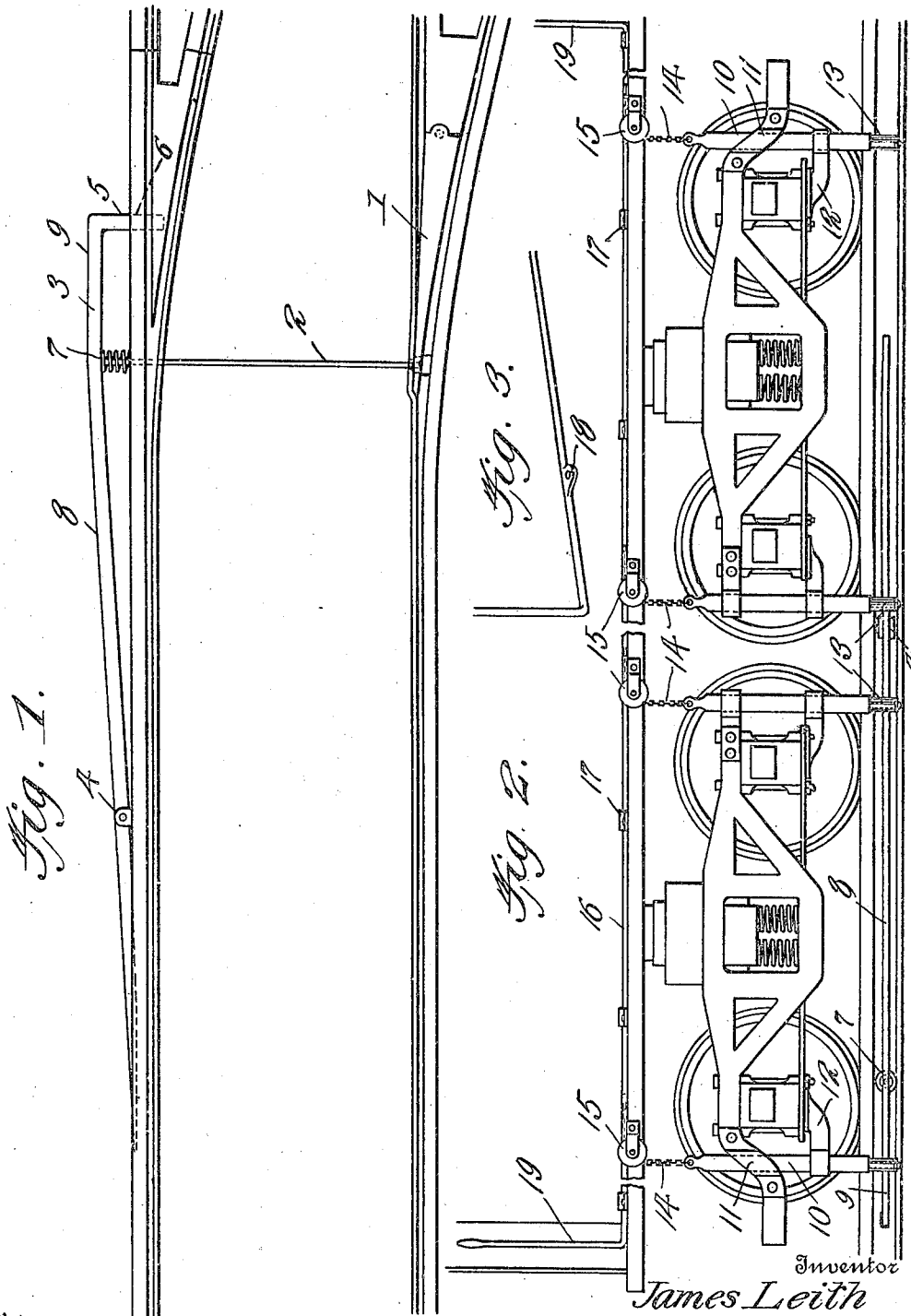


J. LEITH.
 LEVER FOR RAILROAD SWITCHES.
 APPLICATION FILED NOV. 17, 1909.

952,076.

Patented Mar. 15, 1910.



Witnesses

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JAMES LEITH, OF SHERBROOKE, QUEBEC, CANADA.

LEVER FOR RAILROAD-SWITCHES.

952,076.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed November 17, 1909. Serial No. 528,551.

To all whom it may concern:

Be it known that I, JAMES LEITH, a citizen of Canada, residing at Sherbrooke, in the Province of Quebec and Dominion of

Canada, have invented new and useful Improvements in Levers for Railroad-Switches, of which the following is a specification.

The invention relates to an improved mechanism for operating railroad switches, being particularly directed to a construction designed to be manually set and automatically operate, when set, a switch shifting element.

In an application filed by me in the United States Patent Office on the 16th of April, 1909, Serial Number 490,429, I have described a switch throwing element combined with car carried mechanism designed to be manually set to operate an element in the travel of the car. The present invention is designed to improve the car carried mechanism, whereby to insure an even and positive setting of the car carried mechanism when the parts are operated to provide for such setting.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a plan of a track showing the switch throwing element. Fig. 2 is a broken elevation of a car showing the car carried means for operating the element. Fig. 3 is a broken perspective of the setting rod.

Referring particularly to the drawings, and to Fig. 1 thereof, it will be noted that the movable point 1 of the switch is connected through the medium of a bridle 2 to a throwing element 3 comprising an elongated strip arranged beyond one of the rails and pivoted to the latter or other suitable support at 4. The strip 3 which will hereinafter be termed the trip rail is formed at its forward end with a laterally projected guide 5 designed to pass through an opening 6 in the rail to guide the trip rail in movement. On the bridle between the trip rail and adjacent railroad rail is arranged a coil spring 7 designed to normally maintain the trip rail at its limit of movement and thereby hold the switch point in a certain normal position. The trip rail is so disposed that from its rear end, or the end remote from the points, the outer edge thereof gradually diverges from the adjacent railroad rail to a

point in line with the bridle 2, providing an operating edge 8, and beyond the bridle in the forward direction the trip rail extends in parallel relation to the railroad rail, as at 9.

The operating mechanism carried on the car comprises a series of pressure rods 10 slidably mounted in guideways 11 formed in projections 12 from the truck frames. The pressure rods are indetical in structure and by means of the guideways are held against other than vertical movement. They are arranged so that the respective end rods are about on a line with the forward and rear edges respectively of the front and rear wheels, the intermediate pressure rods being arranged adjacent the remaining wheels. Each pressure rod is preferably reduced at its lower end to provide for the mounting of a roller 13 to reduce the friction in the contact of the rod with the trip rail. Each rod is connected at the outer end to one end of a flexible connector, as a chain 14, which chains extend over guide rollers 15 mounted in suitable brackets carried on the car body, and connected at their inner ends to a setting rod 16. A rod extends throughout the length of the car body being slidably mounted in guides 17 thereon, said rod being provided at determinate intervals with ears 18 to which the chains 14 are connected. The respective ends of the setting rod 16 are formed to provide, or have otherwise connected thereto, handles 19 which extend upward within convenient reach of the operator.

In operating the switch and desiring to throw the same the operator will, by means of one or the other of the handles 19, move the setting rod 16 to permit the lowering of the pressure rods 10, the maximum movement of the setting rod so lowering the pressure rods that their rollers will lie in a plane to engage the outer edge of the trip rail as the car advances. As the setting rods travel in a line parallel to and at a determinate distance from the car rail, said rods will, as the car advances, exert pressure upon the side face 8 of the trip rail with the effect to throw the switch, the disposition of said rods tending to maintain the switch in the set position until the last wheel has passed thereover, it being noted in this connection that each of the rods travel over the portion 9 of the trip rail with the effect to maintain said rail in operative position to set the

point for a short period after the last wheel has passed thereover.

From the above description taken in connection with the drawings, it will be noted
5 that the motorman or the conductor by a simple and single movement of the setting rod can adjust the pressure rods to engage and operate the trip rail, and that the advancement of the car toward the switch
10 point with the pressure rods in operative position will necessarily control the proper setting of the switch. Any desired number of pressure rods may be used, the sole requirement being, in this particular, that they
15 be in sufficient number and so located as to maintain the switch set until the last wheels of the car or train have passed thereover.

Having thus described the invention what I claim as new, is:—

20 The combination with a trip rail designed in operation to actuate a switch point, of

switch operating means mounted on the car and comprising guide members secured to and projecting in opposite directions from the respective ends of the truck frame, each
25 guide member including a pair of spaced elements, a pressure rod slidably mounted in each pair of elements, a setting rod mounted for longitudinal sliding movement on the
30 body of the car, and chains connecting each pressure rod with the setting rod, said chains being so connected to the setting rod that in the movement of the latter in either direction all of the pressure rods are similarly and simultaneously operated.

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

JAMES LEITH.

Witnesses:

ALEXINA JONCAS,

AMY E. ARMSTRONG.