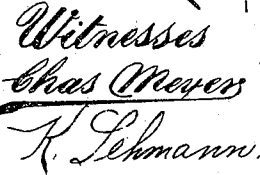


APPLICATION FILED DEC. 4, 1907.

Patented Mar. 22, 1910.



Inventor:
Sherran Miller
By *[Signature]*
His Attorney

UNITED STATES PATENT OFFICE.

SHERMAN MILLER, OF SEATTLE, WASHINGTON.

FROGLESS SWITCH.

952,460.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed December 4, 1907. Serial No. 405,109.

To all whom it may concern:

Be it known that I, SHERMAN MILLER, a citizen of the United States, residing at the Michigan Exchange Hotel, in the city of Seattle, county of King, and State of Washington, have invented a new and useful Frogless Switch, of which the following is a clear and concise specification.

My invention relates primarily to a switch having no frog and being particularly adapted for a main line track.

The objects of my invention are to provide a switch which may be connected to a main line of a railroad track without necessitating the fitting of frogs and switch points to said track; to provide a switch which operates entirely independently of the track already laid; to provide a switch which will not be clogged by snow or ice; to facilitate constructing a continuous track having perfectly rigid rail joints at points where switches are usually operated. I accomplish these as well as minor objects by the construction now preferred by me and illustrated in the accompanying drawings in which—

Figure 1 is a plan view of my entire device, Fig. 2 is a diagrammatical view showing the modification of Fig. 1, Fig. 3 is a perspective view of a crossing point, Fig. 4 is a side elevation of the outside switch point, Fig. 5 is a section at 5, Fig. 1, Fig. 6 is a perspective view of the inside switch point of my device, Fig. 7 is a section at 7, Fig. 1, Fig. 8 is a detail view of the joint of a crossing piece, Fig. 9 is a detail view of a modification of the switch bridle, Fig. 10 is a detail showing the bridle connection to the outside switch point.

Similar reference numerals refer to similar parts throughout the several views of my device as illustrated in the accompanying drawings.

The inside switch point 1 is adapted to overlap the rail 2 of the main line track. Said switch point is preferably wider than the ordinary rail and is provided with a projection 3 adapted to rest against the stop 4, thus limiting the travel of said switch point 1. The extreme point 5 is preferably thin and flat in cross section and tapered to the portion 6 which is secured to the main portion of said switch point 1 and which is preferably the usual shape of a rail in cross section, the lower flange of which is cut away at 7 to permit the web 8 thereof

to rest adjacent the cap 9 of said rail 2. The outside switch point 10 overlaps the rail 11 of the main line and is tapered from the extreme point 12 to the portion 13 which joins the main piece of the switch point 10 which is hinged at 14 in the usual manner to the side track rail 15. I have provided supporting plates 16 which are adapted to support said extreme points 5 and 12 when the switch is thrown out. Said inside switch point is hingeably secured to a cross rail 17 at 18 which is rigidly secured to the ties or other fixed portion of the road bed, and is hingeably secured to the crossing piece 19 at 20 which is operated by the rod 21 which is connected to the knee lever 22 and which is operated by the connecting rod 23 which is operated by a crank 24 of the switch stand 25. Said crank 24 is also connected to a switch rod 26 and is connected to the bridle 27 at the joint 28 which is rigidly secured to said outside switch point 10.

To prevent the extreme point 5 and 12 from being bent I have provided supporting blocks 29. I have also provided a supporting block 30 to strengthen the end 31 of said crossing piece 19. It may be desired to reduce the travel of said point 1 relative to said point 10 and I have provided a modification of said bridle 27 having a slip joint 32 provided therein which permits a by-travel of the end 33 which is stopped by a pin 34 in one direction and by a pin 35 in the opposite direction.

The operation of my device is substantially as follows: On "throwing" the crank 24 of the switch stand 25 the extreme points 5 and 12 of the switch points 1 and 10 as well as the point 31 of the crossing piece 19 will be moved free of the rails 2 and 11, thus permitting the tires and flanges of the wheels of a train running on the main line track to pass freely by the several moving parts of my device, and it is obvious that by the construction shown and herein set forth that the main line will not have to be disturbed by inserting movable portions to form the switch as all of said movable pieces are entirely disconnected from the main line track.

When the switch points 1 and 10 are "thrown in" the wheels and other parts of a train passing thereover will be raised on the incline between the points 5 and 12 and the portions 6 and 13. After having been raised the flanges of the wheels will pass

over the main line rails 11 adjacent the switch stand 10 and the crossing piece 19, thus permitting the cars to freely advance onto the side track.

5 In Fig. 2 I have shown a modification having the switch stand placed on the left hand side of the track.

10 It is obvious that the disposition of the switch stand is immaterial relative to the effective operation of my device.

I do not wish, however, to be limited to the specific construction herein set forth and illustrated in the accompanying drawings, but wish to depart from such details as are within the scope of my patent.

15 Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is;

20 1. In a railway switch, a stop, switch points having the extreme ends thereof thinned and adapted to rest on the cap of

the main line rails to raise the flanges of wheels passing thereover substantially clear of said main line rails and one of said points having a projection engaging said stop. 25

2. In a railway switch, switch points overlapping the cap of the main line rails, one of said switch points having a projection on the side thereof and said switch points tapering from the extreme ends thereof to form an incline to permit the flanges of wheels passing thereover to freely pass over said main line rails and a stop engaging said projection to stiffen said point. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 35

SHERMAN MILLER.

Witnesses:

PAUL A. TALBOT,
I. B. WRAY.