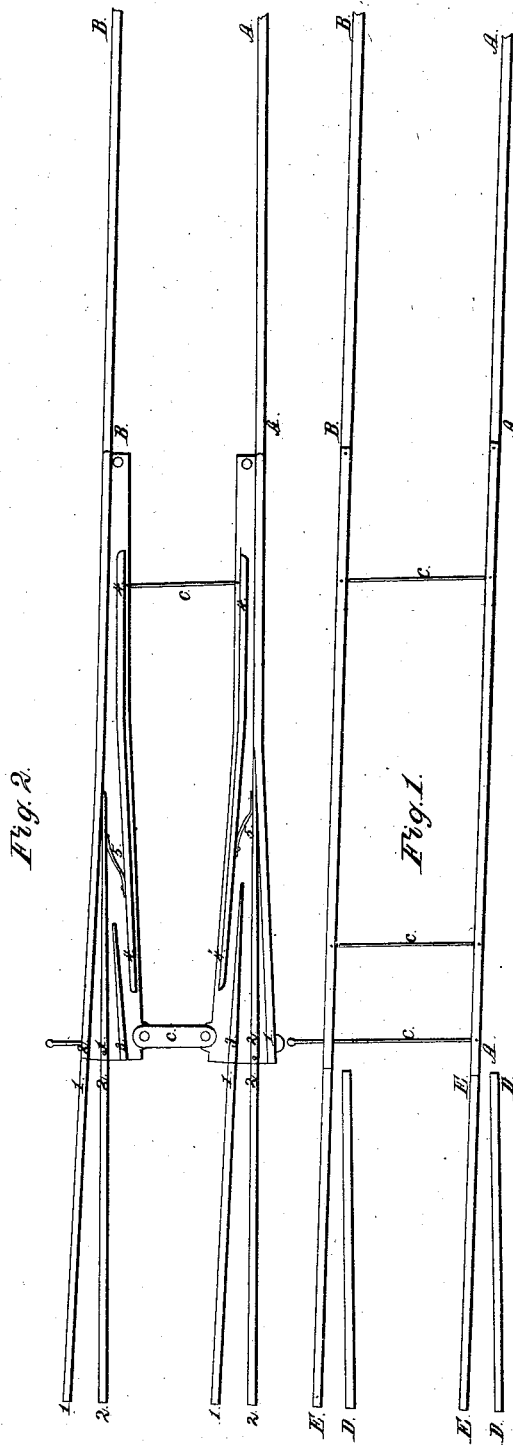


*N. Eaton.*

*Railroad Switch.*

*Nº 1,759.*

*Patented Sept. 3, 1840.*



*Witnesses.*  
*Chas. B. Jones.*  
*George C. Cook.*

*Inventor.*  
*Nath. Eaton*

# UNITED STATES PATENT OFFICE.

NATHANIEL EATON, OF WORCESTER, MASSACHUSETTS.

## RAILROAD-SWITCH.

Specification of Letters Patent No. 1,759, dated September 3, 1840.

*To all whom it may concern:*

Be it known that I, NATHANIEL EATON, of Worcester, in the county of Worcester and Commonwealth of Massachusetts, merchant,  
5 have invented a new and useful Improvement in the Construction of Railroad-Switches, called "Eaton's Improved Railroad-Switch," of which the following is a full and exact description.

10 The improvement is applied to the railroad switch in common use, which is formed by two rails connected by transverse rods of iron, and which may be shifted from one set of permanent rails to meet  
15 those of a different track by means of a lever.

The improved switch is made with two or more rails to accommodate to the number of tracks or diverging rails which may  
20 be used. It may be placed on a platform of wood or metal, over the superstructure of the road, or may have the rails connected together by iron rods with screws and nuts to hold each of the rails in their places, and  
25 to adjust them in case of any change of position occasioned by accident or by the variation of temperature.

The improved switch is constructed with two or more rails. On the outside, are placed  
30 two rails. Commencing at the end next to the chair in which they rest, or the hinge by which they are slipped, these rails are formed like the common rails of the road. They are straight, until they reach about to  
35 the middle of the length of the switch—and are then bent slightly outward. Within these outer rails, and at such distance within them as to admit the passing of the flange of the car wheel, is fixed another rail; this  
40 is fastened to the head of the switch by a bolt on which it turns as upon a pivot: it is formed of the usual thickness and size of the road rail, for about three or four feet from the head, and then tapers on the side  
45 to an edge or point, having a wedge shape. This rail is called the safety rail; and is of such length and tapers in such manner as when the small end is pressed against the outer rail where that curves outward, that  
50 the inner surface of the safety rail forms a straight line with the permanent track. This safety rail is pressed strongly against the inner face of the outer rail by a spring placed so low beneath the upper surface of  
55 the rail as to lie beneath the flange of the

car wheel, or may be bolted to the outer rail, or so secured by other attachment, as to act against the safety rail and to bring it in contact with the outer rail. The safety rail may slide on smooth iron plates, or move on  
60 friction rollers, or on rods of iron connecting the rails together.

On the inside of the safety rail, is fixed another rail, shaped like a wedge, tapering on the sides to an edge, two or three feet  
65 long, and continuing the permanent rail. This rail is bolted at the head of the switch: beyond it extending toward the hinge end of the switch is a guard rail of the common form, to guide the wheels on the track and  
70 prevent their striking against the edge of the safety rail.

The construction of the improved switch which has been described, is fitted for only  
75 two permanent tracks: but the switch may be adapted to any required number of tracks, by increasing the number of rails on the switch, and providing a safety rail and spring for each additional set of rails in the manner before described.

80 The switch is moved and regulated by the lever and rod applied to the common switch. In the use of the improved switch, the safety rail is placed against either of the main or diverging tracks of the railroad,  
85 and at least two of the permanent rails are covered. As the cars proceed in the direction from the hinge to the head of the switch, they will be diverted on the track covered by the safety rail, and will be prevented from running off from the rails:  
90 When they move in the opposite direction, they must be carried upon the permanent rails, because the end of each of those rails is covered and continued by the switch rails.  
95 Although the switch may not have been moved, the flange of the car wheel, if running on the outer rail, will move the safety rail so far as to admit of the free passage of the cars, and after the train shall have  
100 passed, the spring will restore the safety rail to its place. The accidents which have occurred in the old mode of construction, cannot occur in the improved mode of building switches which has been specified, for the  
105 safety rail, adjusting itself, will always furnish a continuous line and prevent the cars from running off from the track. Another great advantage of the safety rail is, that the cars on many diverging tracks, will be  
110

carried upon one line of rails without the care and labor of adjusting the switch for each.

What the said EATON claims as his invention and desires to secure by Letters Patent is,

The mode of constructing switches with a movable rail, operating by a spring or weight, or otherwise adjusted in the manner before described, so as to cover two or more permanent railroad tracks.

In testimony whereof I, the said NATHANIEL EATON, have hereunto subscribed my name, in the presence of the witnesses, whose names are hereafter written, on this twentieth day of July, in the year of our Lord eighteen hundred and forty.

NATH. EATON.

Witnesses:

DANIEL HEYWOOD,  
WILLIAM LEMOIN.