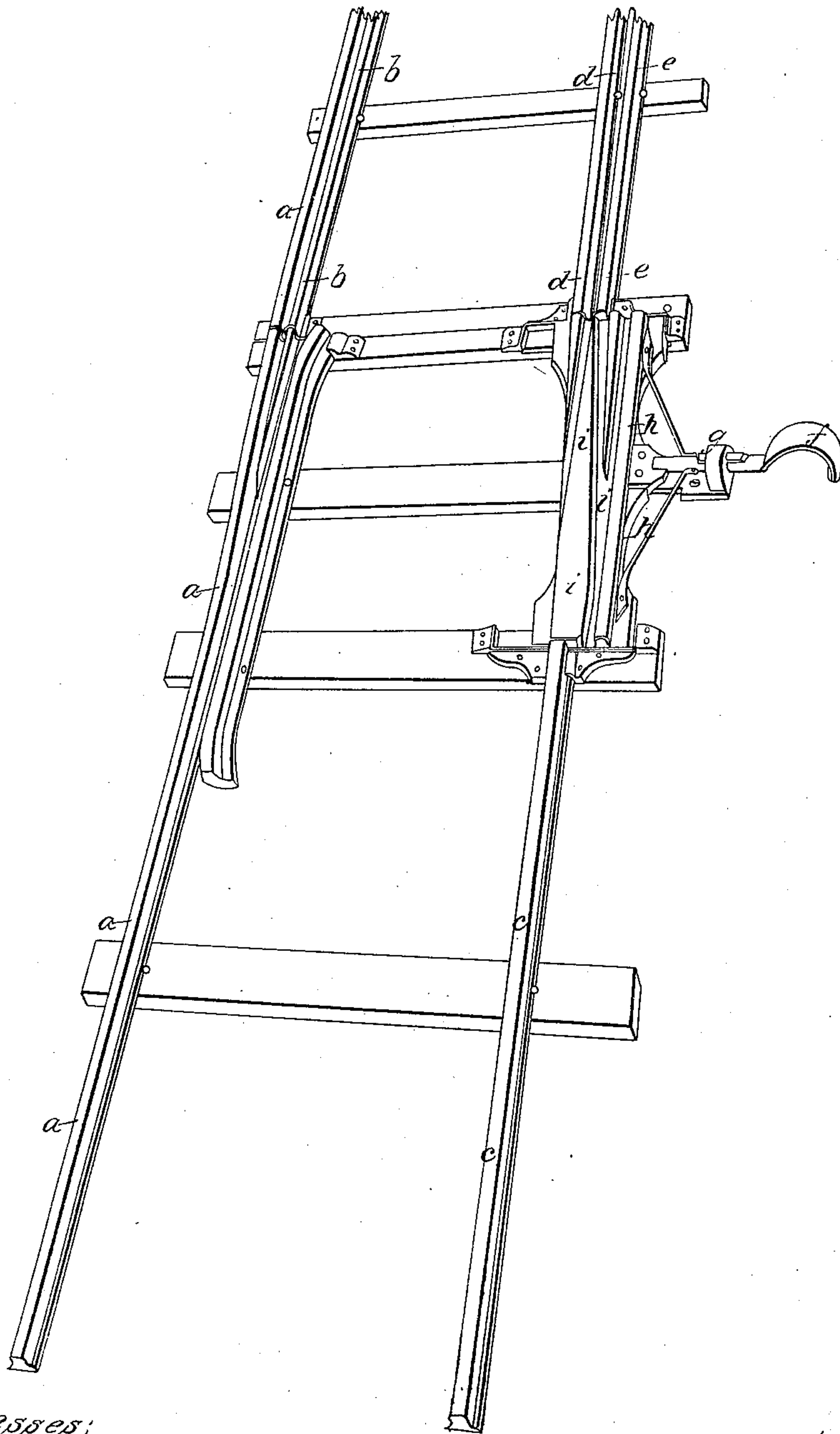


*H. N. Rhodes.*

*Railroad Switch.*

*N<sup>o</sup> 29,820.*

*Patented Aug 28, 1860*



*Witnesses;  
W. A. Hodges  
C. R. Hodges*

*Inventor;  
H. N. Rhodes*

# UNITED STATES PATENT OFFICE.

HORATIO N. RHODES, OF RICHMOND, VERMONT.

## SLIDING SWITCH FOR RAILROADS.

Specification of Letters Patent No. 29,820, dated August 28, 1860.

*To all whom it may concern:*

Be it known that I, HORATIO N. RHODES, of Richmond, in the county of Chittenden and State of Vermont, have invented a new and useful Sliding Safety-Switch for Railroads; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, making a part of this specification.

By (a) is indicated the left hand rail of a single railroad track, near its junction to a double track, as seen in the lower part of the drawing, and also the left-hand rail of the left double track beyond the switch. The left hand rail of the right track is marked (b), and is brought to a point nearly against the middle of the switch hereinafter described. This point must be so near the rail (a) as to little more than permit the flange of a car wheel to pass between them. The flange of an engine wheel coming on the right double track may therefore be made to reach over and run upon the rail (a) before it leaves the point of the rail (b), and the guard rail must be so constructed as to effect this. The right hand rail of the single track is marked (c); that of the left track where double (d) and that of the right track (e); (a) and (d) making the left track, and (b) and (e) the other.

Where the double track commences the rails on the right hand are entirely cut away and removed for the length of say five feet. In their place is substituted an iron plate of the same thickness with the height of the rails, marked (i). This constitutes the switch and slides in and out on chairs. It is moved by the switch, (f), which is kept in its place by notches on the rod, which catch in the guide bar (g) by means of a spring. When drawn out to the right the inside of this plate corresponds at the lower end with the inside of the rail (c) and at the other end with the inside of the rail (d) and together they form a continuous rail. This edge of the plate must be so formed as to force the wheel on the opposite side between the point of the rail (b) and the rail (a). A groove is cut in the upper surface of this plate, leaving the outer edge in the form of a rail (h). When the switch is brought in to the left, this rail (h) connects at one end with the rail (c) and at the

other with the rail (e) forming another continuous rail. When the switch is drawn out therefore a train proceeding on the single track will be made to take the left branch, and, by thrusting the switch to the left, it will take the right branch of the double track.

In order to prevent an engine from running off, which is coming upon the left of the double tracks when the switch is adjusted for the other or right track, another groove is cut in the surface of the switch plate (i) the outside corner of which corresponds with the inside of the rail (d) and which runs into the groove already described, and must be deep and wide enough for the flange to run in freely. This will serve as a rail, and terminates in a point nearly opposite the point of (c,) and so near the rail (h) that before the flange of a wheel leaves it, it will rest and run upon the latter rail. This will of course conduct a train coming upon the left track safely on the single track, although the switch is adjusted so as to conduct from the single track to the right hand one. To obviate a like danger when a train is coming on the right track and the switch is adjusted for the other, another groove is cut in the surface of the switch plate (i) wide enough to receive the flange, the right edge of which corresponds at the upper end with the inner edge of the rail (e) and which runs out of the plate near the middle of its left side. Lest an engine proceeding from the single track and intended for the left branch should take the groove last described, and so run upon the right branch, this groove is made shallow toward its lower part, having no more than half the depth of the flange. The lower part of the flange in such a case will strike the side of the switch plate below the groove, and be kept in its place. By this arrangement therefore the proper direction is given to trains proceeding from the single track as effectually as by other switches. Should a train come upon one track when the switch is adjusted for the other, it is secured also a safe passage upon the single track. And in fine it is rendered unnecessary to provide any apparatus for switching save upon one side of the track. A similar switch may, however, be introduced upon the opposite side, to be operated by the same switch rod. This would render it certain that a train



would proceed upon the desired track, though the switch were not constructed so exactly, and more play might be given to the wheels.

What I claim as my invention, and desire  
5 to secure by Letters Patent, is—

A solid sliding switch, with rails, or equivalents for rails, for directing a train upon either of two side tracks, as desired, and with grooves affording a safe passage

onto the single track to a train coming upon 10  
one side track, when the switch is adjusted for the other, the whole constructed and operated as above described.

H. N. RHODES.

Witnesses:

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