H. N. Rhodes,

Railroad Switch,

No. 29,821, Patented Aug. 28, 1860.

Fig: 1.

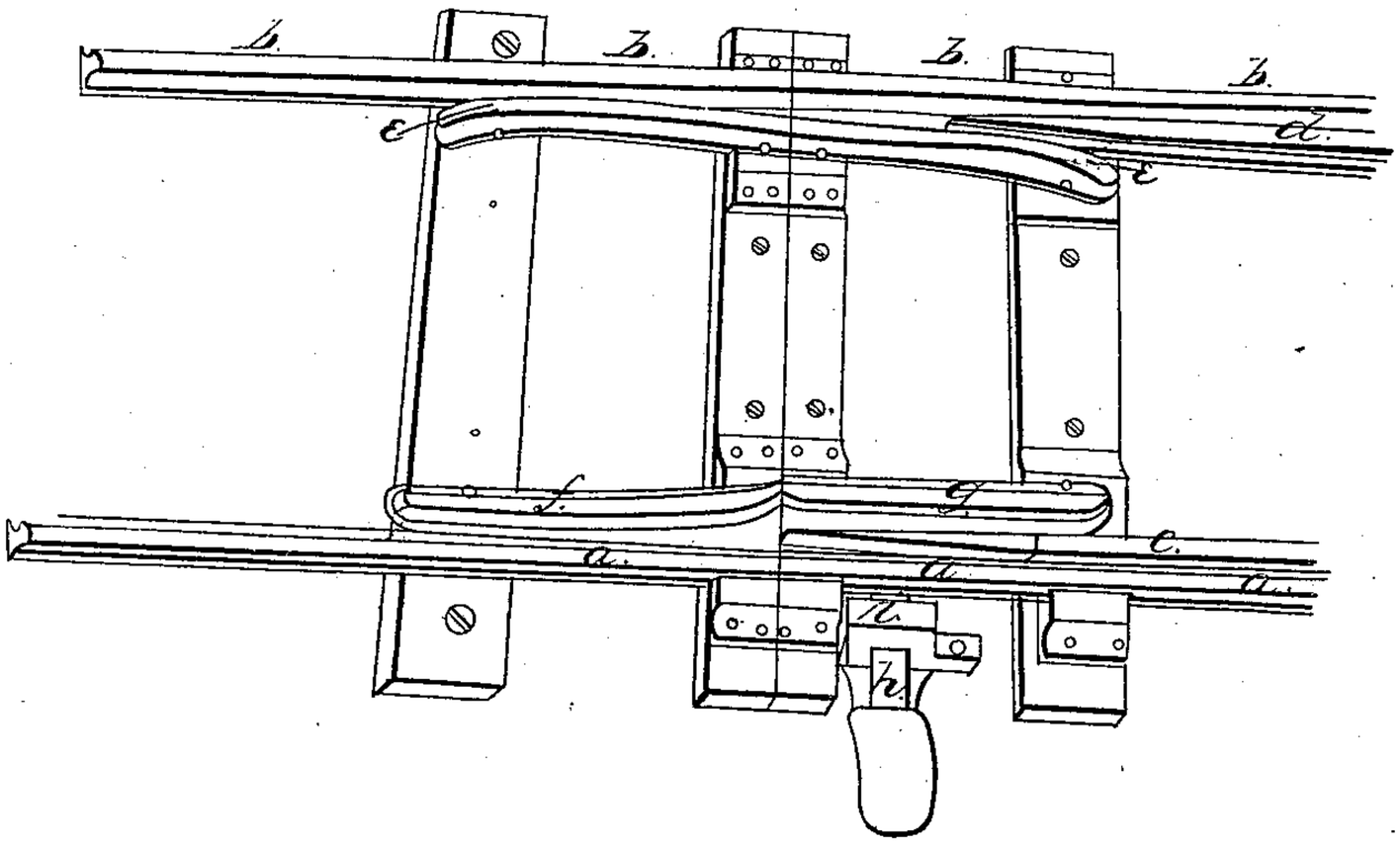
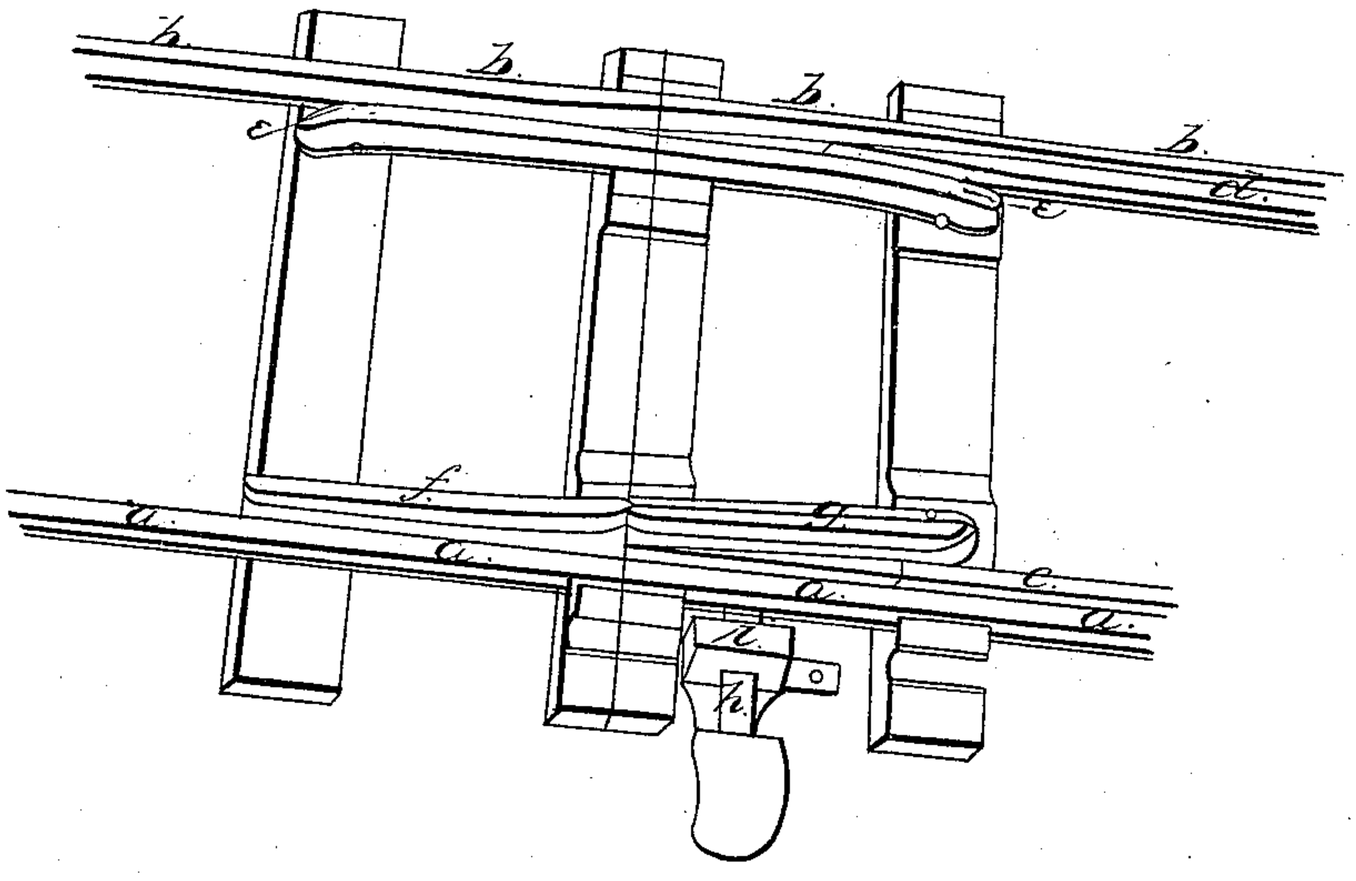


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

HORATIO N. RHODES, OF RICHMOND, VERMONT.

SAFETY RAILROAD-SWITCH.

Specification of Letters Patent No. 29,821, 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 Safety-Switch for Railroads; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

At the left of each figure (*a*) and (*b*) indicate the outside rails of a single track, and, protracted to the right of the switch, the outside rails of the double track. The inside, or short rails of the double track are (*c*) and (*d*), (*a*) and (*d*) constituting one branch; and (*b*) and (*c*) the other. The outside rails and the rail (*d*) are entirely stationary, as are also the guard rail (*e*) next the upper rail (*b*) and the left half of the other (*f*). The right half of the lower guard rail (*g*) plays upon a pivot at the right end, and serves as the switch. The point of the short rail (*c*) is made in one piece with it, and plays with it, there being a groove between them large enough for the flange of a car wheel to run in. The short rails are brought to a point, the rail (*c*) near the left or loose end of the switch (*g*) the rail (*d*) not so far to the left. The point of the rail (*d*) is so near the rail (*b*) as to little more than permit the flange of a car wheel to pass between them. When the switch (*g*) is drawn outward, toward the rail (*a*) the point of the rail (*c*) must be even nearer the rail (*a*), as seen in Figure 2, so as to barely permit the flange to pass between them from the right to the left. And the rails (*a*) and (*b*) are so near together at the point of the short rail (*d*) that the flange of the farther wheel will be still resting and running upon the rail (*b*) when it takes the point of the rail (*d*) so that the wheel will not drop. The position of the switch (*g*) and of the point of the rail (*c*) is governed by the switch-rod (*h*) having notches upon it which catch into the guide box (*i*) so as to retain it in one of two places.

The upper guard rail (*e*) has such a curve given to it, as to throw an engine coming from the left toward the rail (*b*), and, when the switch (*g*) is drawn out toward the rail (*a*) as in Fig. 2 it will take the upper track. But when the switch is thrust in, as in Fig. 1, the flange of the nearer wheel will be caught by the point of the rail (*c*) and run between it and the rail (*a*), and the train will take the lower track. Let the switch be in either position, a train coming on either track will be certain in all ordinary cases, of proceeding safely to the single track.

As the car wheels are not always secured upon the axle at exactly the same distance, but are nearer to each other in some engines and cars than in others, I would attach to my guard rails a floor upon which the flange of the wheels might run, and the wheels be prevented from dropping, if the tread did not keep the rail. And I would have it high enough for the tread to take the rails again as soon as they were near enough.

The necessity of having a switch rod extended across the track is obviated by this device, and also most of the labor and expense of keeping the switch rod and two switch rails clear of ice. At the same time a train coming from either of the branch tracks is secure, under all ordinary circumstances, of taking the single track, and the danger of running off is to a great extent avoided. It may be thought best, notwithstanding, to have the guard rail (*e*) also cut in two, and to make the left half play upon a pivot at its left end. When it is designed that an engine should take the lower track, not only should the switch (*g*) be thrust in as in Fig. 1, but the left half of the guard rail (*e*) should also, if so constructed, be removed farther from the rail (*b*), and thus relieve the engine from the pressure the guard rail would otherwise give it toward the rail (*b*), and save the point of the rail *c* from a possible injury.

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

The use of a switch upon one side of a railroad track, constructed as above described, and which, combined with rails constructed and arranged as above described, will insure a train taking the desired branch, and, at the same time, however it is adjusted, will furnish a safe passage to the single track for a train coming on either of the branch tracks.

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Witnesses:

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