

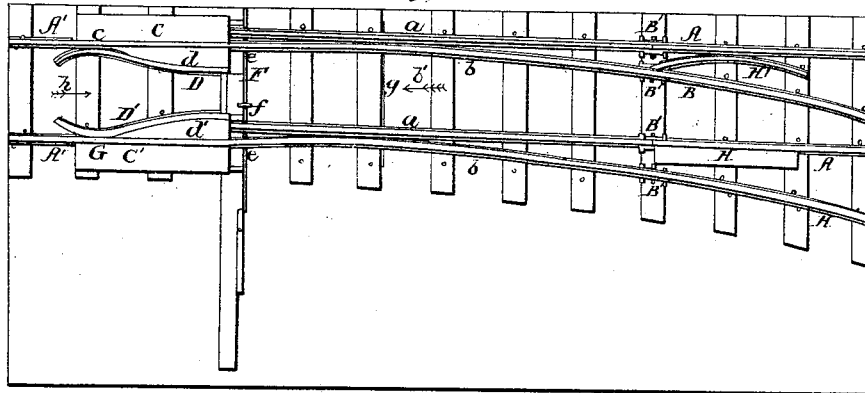
*J. W. Colwell.*

*Railroad Switch.*

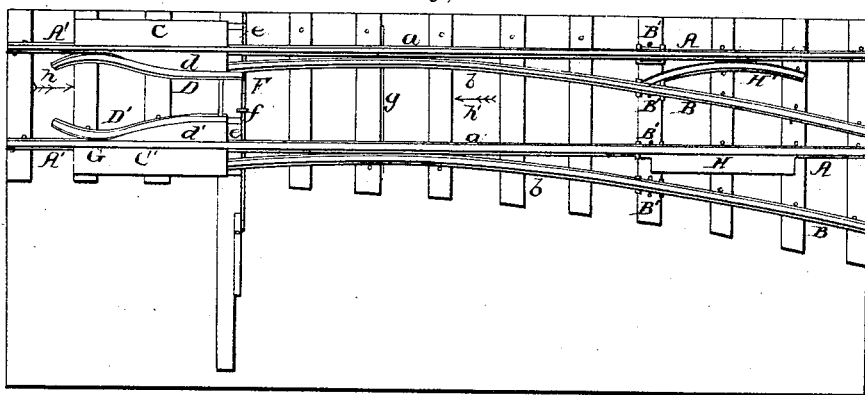
*N<sup>o</sup> 47,089.*

*Patented Apr. 4, 1865.*

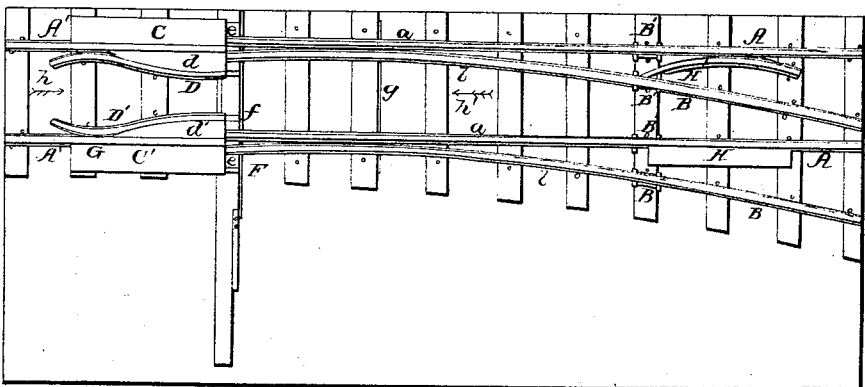
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses;*

*W. H. Burridge  
H. H. Buswell*

*Inventor;*

*J. W. Colwell*

# UNITED STATES PATENT OFFICE.

J. W. COLWELL, OF MACEDONIA, OHIO.

## IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. 47,082, dated April 4, 1865.

*To all whom it may concern:*

Be it known that I, J. W. COLWELL, of Macedonia, in the county of Summit and State of Ohio, having invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figures 1, 2, and 3 are plan views of the switch in different positions.

Like letters of reference indicate like parts in the views.

My improvement relates to a switch so constructed that the cars will be guided onto the main track at either end in case the switch is not shifted to the proper position.

In the Figures, A represents the main and B the side track, the end A' of the main track forming a tangent of the side or curved track. The rails *a* and *b* constitute the switch-rails of the main and side tracks, and are jointed or connected to them at B' in the ordinary way. At the other end they are attached or secured to a connecting-rod, F, in the position represented, and slide back and forth in the chairs *e*.

*f* is a catch to keep the connecting-rod in place as it is moved either way or operated by the target-lever, with which it is designed to be connected.

*g* is another connecting rod or brace that keeps the rails in place where they come together.

The rails *b* of the switch and side track commence to curve immediately at their junction with the tangent rails, which are directly straight with the main track from that point, as represented.

C C' are guards outside of the rails A', and D D' are guard-rails bent so as to fit round the inner guards, *d d'*, and curved round on the inside of the rails, as shown in the figures, leaving a space between, to allow the passage of the flange of the car-wheels.

H is a guard and H' a guard-rail connected with the main track A at the other end of the switch, similar to the ones just described.

The practical advantages of this switch, as constructed, will be described as follows. When the train is passing on the end A' of the track, in the direction of the arrow *h*, and it is desired to switch it off onto the side

track, the switch will be shifted into the position shown in Fig. 1, the curved rails *b b* being brought in a line with the rails A'. If a train on the end A of the main track is passing in the direction of the arrow *h'*, and the switch by accident or otherwise is not adjusted properly, but is in the position seen in Fig. 1, if the switch was of the ordinary construction the train would be thrown off the track, but by means of the guards and guard-rails this is prevented, for the wheels on one side would run onto the guard C, and the wheels on the other side would run onto the inner guard, *d*, between the rail A' and the guard-rail D', and as the rail D' curves out to the rail of the main track, the train would be drawn or guided onto the track at G by the action of the guard-rail on the inside of the flange of the wheels. The same result is produced when the train is passing on the side track in the same direction and the switch is not properly shifted, but is in the position represented in Fig. 2, when the wheels will run onto the guards C' and D' and the guard-rail D will guide the wheels onto the main track by the way before described.

If the switch-rails are in the position shown in Fig. 3, one on each side of the main track, the train passing on either the straight or curved track in the direction of the arrow *h'* will be guided onto the main track, for if the train is on the straight track it will run onto the guards C and *d'* and be moved by the guard-rail D' onto the track; and if the train is on the curved track, the wheels will run onto the guards C' and *d*, and be guided back onto the main track by the guard-rail D' in the manner before described; and if the train is going in the other direction, as indicated by the arrow *h* from the end A', and the switch-rails are in the position as in Fig. 3, the wheels would run along between the rails *a* and *b* until they come to the guard H and guard-rail H', when the wheels on one side will run onto the guard, H and the wheels on the other side round the curve H', by which the train would be drawn onto the main track; otherwise the train would run entirely off.

Thus, by this arrangement of guards and guard-rails, the train in passing off the switch at either end will not be thrown from the track when the switch is not shifted to its proper position.

In this switch the train passes from the tangent directly onto the curve, as the tangent ends at the junction of the switch and the curve commences.

The switch-rails may be in a direct line or curved without affecting the operation of the switch, and it is as well adapted to a three as a two throw switch—one drawing on the main track, one on the side track, and one on no track.

The distance between the switch-junction and frog is so shortened that the expense of putting in the guard-rails is not incurred, for the amount of rail taken out is sufficient for the guard-rails, and it requires no shop-work

more than is needed in a common square-butt switch.

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

1. The guards C C', d d', and guard-rails D D', in combination with the switch-rails, when arranged as and for the purpose set forth.

2. Placing the main track A' A' on a tangent with and at the junction of the side track, B B, in combination with the guards and guard-rails, substantially as and for the purpose specified.

Witnesses: J. W. COLWELL.

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H. W. BUSWELL.