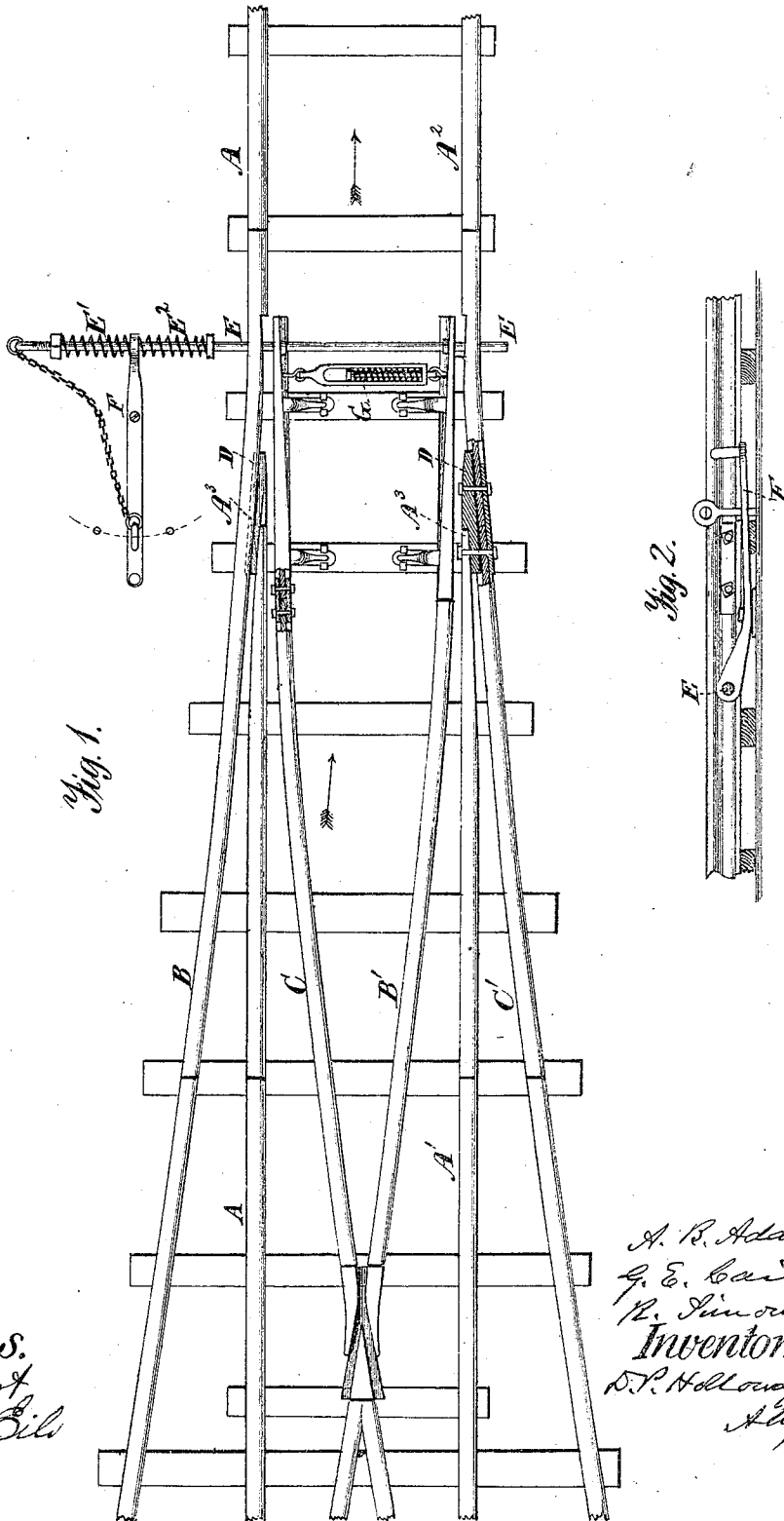


A. B. ADAMS, G. E. CAIN & R. SIMONTON.
Railway-Switches.

No. 148,160.

Patented March 3, 1874.



Witnesses.
A. Ryckert
C. Edg. Oil

A. B. Adams
G. E. Cain
R. Simonton
Inventors.
D. P. Holloman & Co.
Attys

UNITED STATES PATENT OFFICE.

ALEXANDER B. ADAMS, GEORGE E. CAIN, AND ROBERT SIMONTON, OF
HUNTINGTON, INDIANA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **148,160**, dated March 3, 1874; application filed
January 14, 1874.

To all whom it may concern:

Be it known that we, ALEXANDER B. ADAMS, GEORGE E. CAIN, and ROBERT SIMONTON, of Huntington, in the county of Huntington and State of Indiana, have invented an Improvement in Safety-Switches for Railroads, of which the following is a specification:

Figure 1 is a plan view of a three-throw switch with our improvements attached. Fig. 2 is a side elevation, showing the lever for moving the switch-rails and a pin for holding them in position.

Corresponding letters denote corresponding parts in the several figures.

This invention relates to three-throw switches for railroads; and it consists of certain combinations and arrangements whereby a car or train proceeding from a side track to a main track may pass therefrom without the necessity of changing the switch, and then be passed over the switch upon the main track in an opposite direction without any manipulation of said switch, and, further, so that it may pass the switch upon the main track, in the direction of the arrows, without being thrown therefrom, whatever may be the position of the movable rails, as will be more fully described hereinafter.

The drawings represent a three-throw switch or one which is capable of being set so as to guide a train or a car upon either of two side tracks or upon the main track, the rails of the main track being designated by the letters A A¹, while those of the side tracks are letters, respectively, B B' and C C'. The general arrangement of these rails is similar to that usually adopted in laying down switches, they being laid upon ties in the usual or any approved manner, those of the side tracks being made to diverge from those of the main track until they are carried far enough therefrom to allow cars or engines to pass upon either track, without coming in contact with such as may be standing upon either of the others. The rails A A¹ of the main track terminate at the points A², they being so arranged as to conduct the wheels of the passing train or car from that point to the rails B and A², when said train or car is moving in the direction in-

dicated by the arrows, and to receive them therefrom when moving in an opposite direction. To facilitate the transfer of the wheels, as above described, transfer-blocks D are placed between the rails B and A and A¹ and C', which serve to retain said rails in position; and, because of the fact that their upper surfaces are properly grooved or beveled, they also serve to guide the wheels from the main track to the side tracks, and the reverse.

In order that provision may be made for directing cars from the main track to either of the side tracks, the ends of the rails C and B' are made adjustable by being united to the fixed portion, as shown in Fig. 1, or in any other approved manner, so that their outer ends can be oscillated far enough to be brought in contact with the rails A and A², in which there is a recess formed for their reception. For the purpose of causing the oscillating movement of the ends of C and B', a rod, E, is passed through them, which is provided with collars or nuts, which are fixed upon the rod in such a manner as to come in contact with the inner surface of the rails, so that as said rod is moved by a lever, F, arranged as shown, or in a vertical position, these rails will be moved into contact with either of the rails A and A¹, according to the direction which it is desired to give to the train or cars.

When the main track only is to be used, the switch is to be placed in the position shown in Fig. 1; but when the train or car is to be run upon the rails C C', the lever F is to be so moved as to bring the oscillating end of C in contact with rail B, in which case a train or car approaching the switch will be directed upon said rails.

Should it become desirable to remove a train or car from the side track, designated by the letters B B', while the parts of the switch are in the position last described, it can be done without any manipulation of said switch, as, under such circumstances, the flanges of the wheels of the train will press against the outer side of the rail C, and force it out of the way, provision for such movement, and for the return of the rail to its position, being made by placing upon the rod E springs E¹ and E², the

one lettered E^1 acting in the supposed case, to return the rail to its position after the wheels have all passed the switch, the other spring serving the same function in reference to rail B' , when a train or a car is to be removed from the rail C and C' , supposing the position of lever F to have been so changed as to bring the end of rail B' in contact with A^2 , or so as to direct the train upon the rails C and C' .

In order that a train or car may pass from either of the side tracks, when the switch is so set as to direct a train upon them without the necessity of changing it, it is necessary that the ends of both of the rails C and B' should be moved, and a description of the method of moving the one lettered C has been given, the other being moved in a similar manner by the pressure of the flanges of wheel, and in order that such movement may take place when the rail C has been so far moved as to cause it to rest against the collar or nut upon the rod E , or against a stop provided for it, there is a double-acting spring, G , placed between the rails C and B' , one end of said spring being attached to rail C , and the other to B' , as a consequence of which rail B' can be moved over so as to guide the wheel upon rail A^2 in taking the train from the side track when the switch is set to run a train coming from the opposite direction upon such track.

When the switch is in the position shown in Fig. 1, a train or car may be moved from either of the side tracks onto the main track without changing its position, the double-acting spring allowing the ends of the rails B' or C to be moved by the flange of the wheels, so as to

give the proper direction to the train or cars; but, whichever of the side tracks the car is removed from, upon changing the direction in which it is moving, after it has passed the ends of the switch-rails, it will in all cases be guided onto the same track, owing to which fact cars may be removed from both of the side tracks and pass upon the main one without the services of a switch-tender being brought into requisition.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A three-throw switch, composed of the fixed rails of the main track, the fixed exterior rails of the side tracks, and the interior rails of the side tracks terminating in swinging ends, which project beyond the junction of the several fixed rails mentioned, substantially as specified.

2. The swinging ends of the interior rails of the side tracks, connected by a spring-swivel, in combination with the fixed rails of the side and main tracks, and the shouldered rod E encircled by springs E^1 and E^2 on the respective sides of the switch-lever, substantially as and for the purposes specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALEXANDER B. ADAMS.

GEORGE E. CAIN.

ROBT. SIMONTON.

Witnesses:

JOS. M. BROWN.

CHAS. F. STERNE.