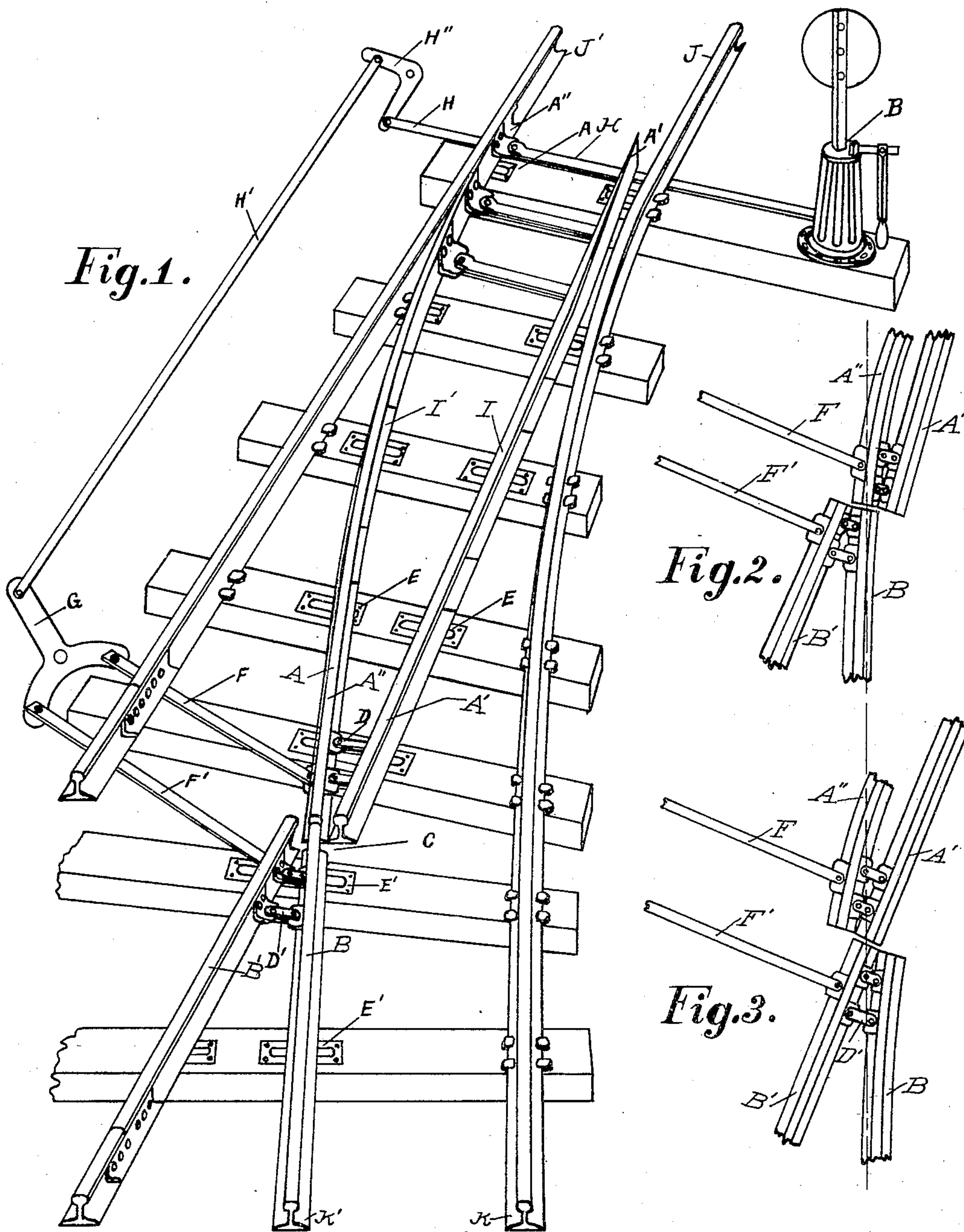


No. 791,974.

PATENTED JUNE 6, 1905.

C. M. ALLEN.
FROGLASS SWITCH.
APPLICATION FILED JAN. 21, 1905.



WITNESSES:

W. C. Schnessler.

J. Stanley Sec.

Clinton M. Allen. INVENTOR

BY

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UNITED STATES PATENT OFFICE.

CLINTON M. ALLEN, OF WEST BAY CITY, MICHIGAN, ASSIGNOR OF ONE-FOURTH TO WILLIAM A. WILDER AND THREE-FOURTHS TO ALEXANDER ZAGELMEYER, OF WEST BAY CITY, MICHIGAN.

FROGLESS SWITCH.

SPECIFICATION forming part of Letters Patent No. 791,974, dated June 6, 1905.

Application filed January 21, 1905. Serial No. 242,156.

To all whom it may concern:

Be it known that I, CLINTON M. ALLEN, a citizen of the United States, residing at West Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Frogless Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railway-crossings, and pertains more particularly to the construction of a switch whereby the use of the ordinary frog is avoided and the rails of the diverging tracks are so operated as to bring the split or tapered end of the movable switch-rail into close contact with the corresponding track-rail while simultaneously moving the opposite square-cut end of the switch-rail into line with the ends of the adjacent track-rails, so as to form a close butt-joint instead of an overlapping joint, as has heretofore been the case.

My construction affords no place in the middle of the track in which a switchman may catch his foot, thus reducing the liability of accident.

With these and other advantages in view, which will appear later in this specification, my invention consists in the devices shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a switch-stand and a switch embodying my invention.

Fig. 2 is a top plan view showing the ends of the rails in position to permit a train to travel from the main track onto the side track. Fig. 3 is a similar view showing the rails arranged for travel straight along the main track.

In the drawings, J J' are the rails of the main track, and K K' are the rails of the switch-track or siding.

A' A'' are split rails of the usual form secured to the switch-bar H, which is operated by the switch-stand B.

The ends of the rails A and A' slide on suitable plates A, secured on the tie. The opposite or square-cut ends of the split rails A' A''

are arranged close together and connected by pivoted links D, so that both the rails move together when operated by the link F, which is actuated by the bar H through the bell-crank lever H'', link H', and double bell-crank lever G. A second link F' also connected to the double bell-crank lever G, as shown in Fig. 1, is pivotally secured to the rail B', which is connected by the link D' to the end B of the switch-track rail K'. Movement of the lever G actuates simultaneously the rails A' and A'' and B and B', so that the rail A'' may be brought into direct line with rail B or the ends of A' and B' can be brought into exact register, as indicated in Fig. 3, thus leaving a clear smooth track-tread whether the switch is thrown for the main track or siding. It will be noticed that the amount of movement necessary for either the pair of rails A' A'' or the pair B B' is very small, since each pair moves half the distance required to open or close the switch.

The rails A' A'' slide on suitable bearing-plates E and the rails B B' slide on similar plates E'. The joint formed between the rails A'' and B or between A' and B', as indicated at C, is always a square or butt joint. This reduces the liability of accident to a switchman by catching his foot in the rails, and the construction of the switch is such that the rails A' and A'' or B B' may be sufficiently far apart to avoid liability of such an accident.

By means of the links H H' F F' and levers G H'' both ends of the rails A' and A'' are moved simultaneously, thus doing away with the necessity of providing pivots at an intermediate point, such as I and I'.

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

In a railroad-crossing the combination with the main-track rails and switch-track rails, of a pair of split rails, each of said rails being tapered at one end and cut square at the other end; a switch-bar operatively connecting the tapered ends of said split rails; a toggle-lever and link actuated by said switch-bar; a double toggle-lever connected to the end of said link;

and a link connecting one end of said double
toggle-lever to the square-cut ends of said
split rails; together with a link connecting the
other end of said double toggle-lever with the
5 ends of the main-track rail and the switch-
rail; and a link connecting the adjacent ends
of said track-rail and switch-rail.

In testimony whereof I affix my signature in
presence of two witnesses.

CLINTON M. ALLEN.

Witnesses:

J. S. LEE,

W. I. CATHCART.