J. S. WILLIAMS.

RAILROAD-CROSSING.

No. 193,063. Patented July 10, 1877.

Fig. 1.

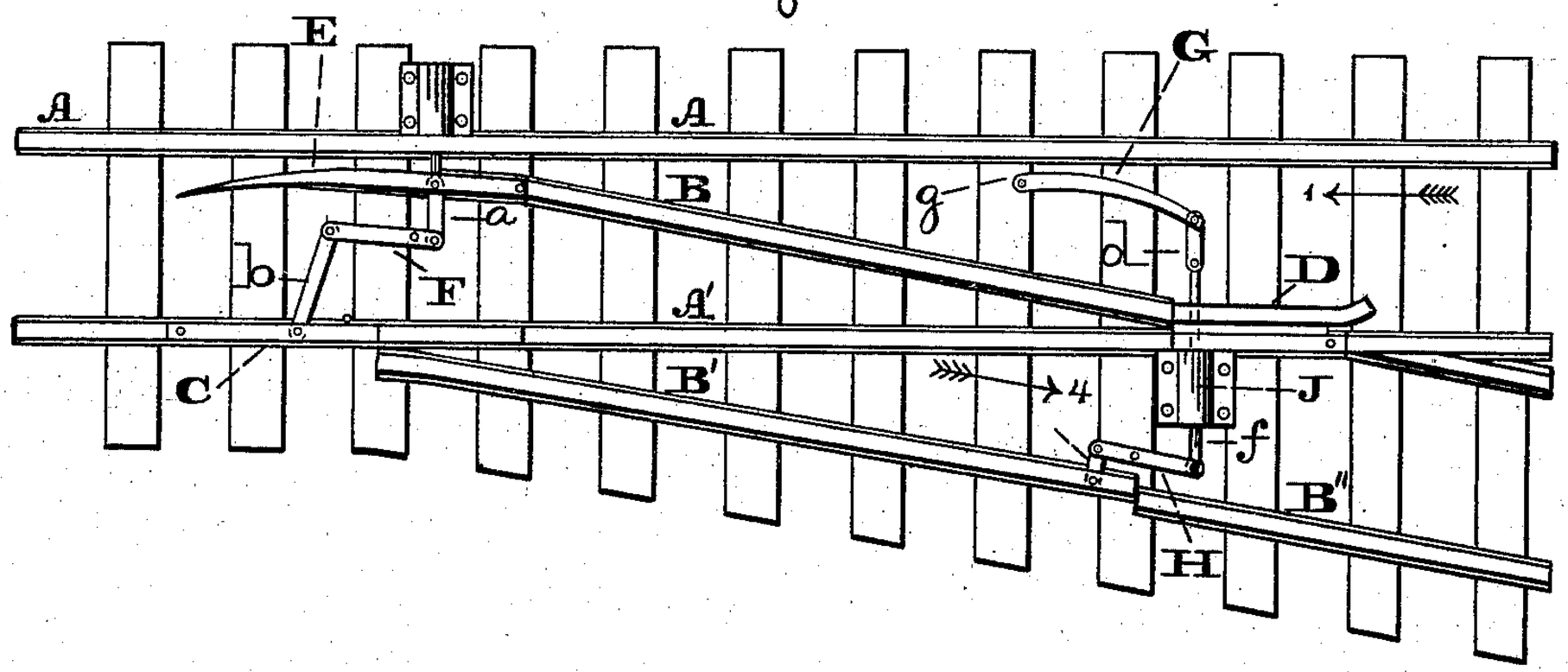
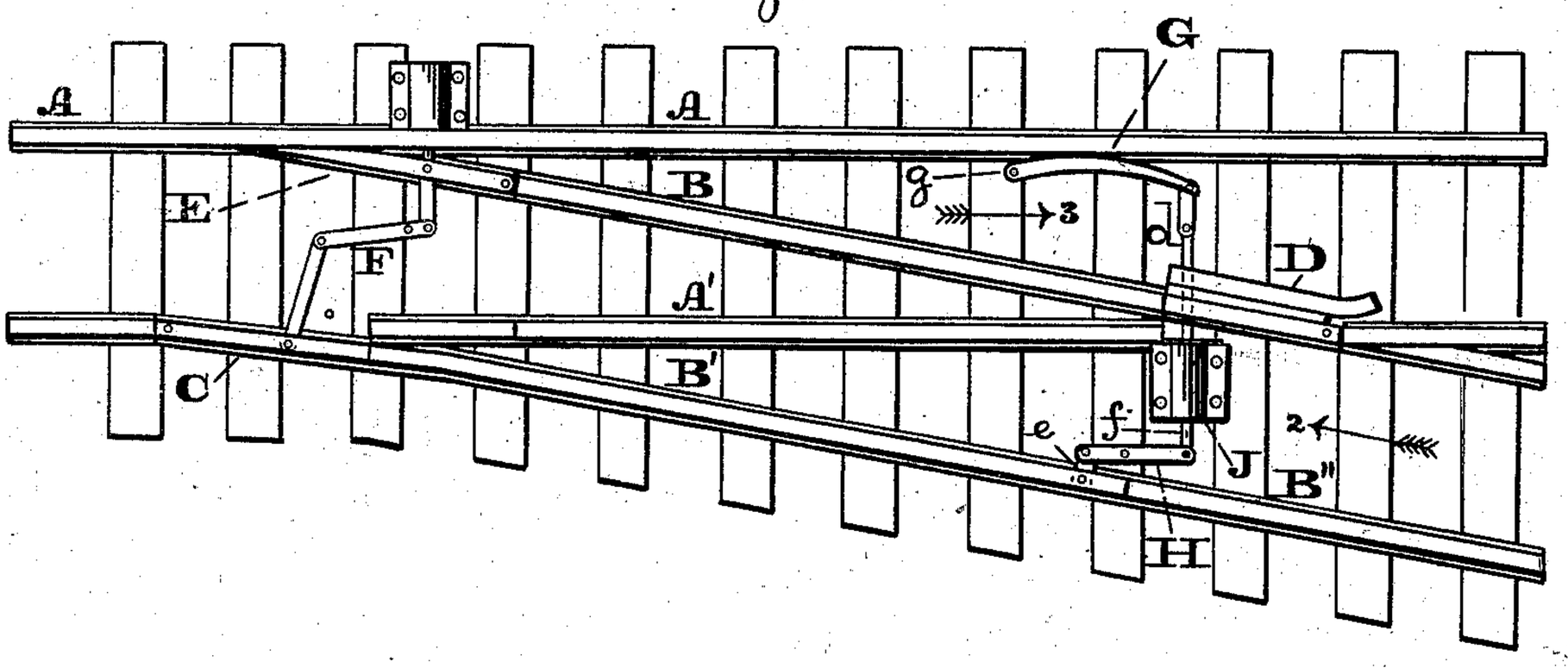


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH S. WILLIAMS, OF RIVERTON, NEW JERSEY.

IMPROVEMENT IN RAILROAD-CROSSINGS.

Specification forming part of Letters Patent No. **193,063**, dated July 10, 1877; application filed May 19, 1876.

To all whom it may concern:

Be it known that I, JOSEPH S. WILLIAMS, of Riverton, in the county of Burlington and State of New Jersey, have invented a new and useful Improvement in Switches; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which the figures are face views of the switch embodying my invention.

My invention consists of a railroad-switch in which the shifting-rail of the main line is automatically positively operative either to the main line or side track in either direction.

Referring to the drawings, A A′ represent the rails of the main track, and B B′ the rails of the side track, the rail B′ being movable.

C represents a movable rail, which is located on the head end of the switch, and adapted to communicate with either of the rails A′ B′. D represents a crossing, which is pivoted adjacent to the place of crossing of the rails A′ B, and adapted to communicate with either of said rails A′ B.

At the end of the rail B, at the head end of the switch, there is pivoted a rail, E, which forms a continuation of said rail B, and to said rail E there is pivoted a transversely-extending bar, *a*, to which is pivoted a lever, F, and to the rail C there is pivoted a bar, *b*, which is pivoted to the lever F.

G represents a pivoted plate or rail, which is located adjacent to the crossing D, is connected by a bar or rod, *d*, to said crossing, and the movable rail B′ is also connected to the crossing by means of a bar, *e*, pivoted at opposite ends to the rail B and a lever, H, to which latter is connected a bar or rod, *f*, pivoted to the crossing. A spring in the present case inclosed in a box, J, adjacent to the crossing, is so connected and located that it will actuate the crossing, to restore it to its normal position, which is in communication with the rail A′, as shown in Fig. 1, and the movable rail B′ is not in communication with the adjacent length B″ of the side track.

The operation is as follows: When the cars are running on the main line in the direction of arrow 1 the wheels pass over the crossing D to the adjacent rails of the main line, as usual. When the cars are running on the side track in the direction of arrow 2 the wheels of the cars press against the butt-end of the crossing D, and force the head end thereof in communication with the rail B. At the same time, owing to the lever H and bars *e f*, which are operated by the crossing D, the rail B′ is moved into communication with the rail B″, the position of parts being shown in Fig 2, whereby the cars from the side track will readily pass the crossing D. When the cars are running on the main line in the direction of arrow 3, and should the crossing D be in communication with the rails of the side track, as shown in Fig. 2, the rail or plate G being close to the rail A, the wheels enter the throat *g* between the said plate or rail G and the rail A, and force the former from the latter, whereby the crossing D will be restored to its normal position, in communication with the main line. When the cars are running on the side line in the direction of arrow 4, and the parts are in position as shown in Fig. 1, the wheels force out the movable rail B′, so as to communicate with the adjacent length B″. At the same time the lever H will be operated so as to shift the crossing D from communication with the main line, as in Fig. 1, to communication with the side track, as shown in Fig. 2.

It will thus be seen that the shifting-rail or crossing D is automatically operative either to the main line or side track in either direction of the road.

It will also be seen that the shifting-rail or crossing D, as also the movable rail B′, will be securely held in position during the passage of the train.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railroad-switch the fixed rails A and A′ of the main line, and the fixed rail B′ of

the siding, in combination with the movable rails C and E, moving and pointing in opposite directions, whereby by a single movement continuity is established either with the main line or with the siding, substantially as specified.

2. The shifting-rail D, in combination with the movable rail B′ and plate or rail G, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSEPH S. WILLIAMS.

Witnesses:
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J. S. NASH.