J. S. WILLIAMS.

RAILROAD-CROSSING.

No. 193,065. Patented July 10, 1877.

Fig. 1.

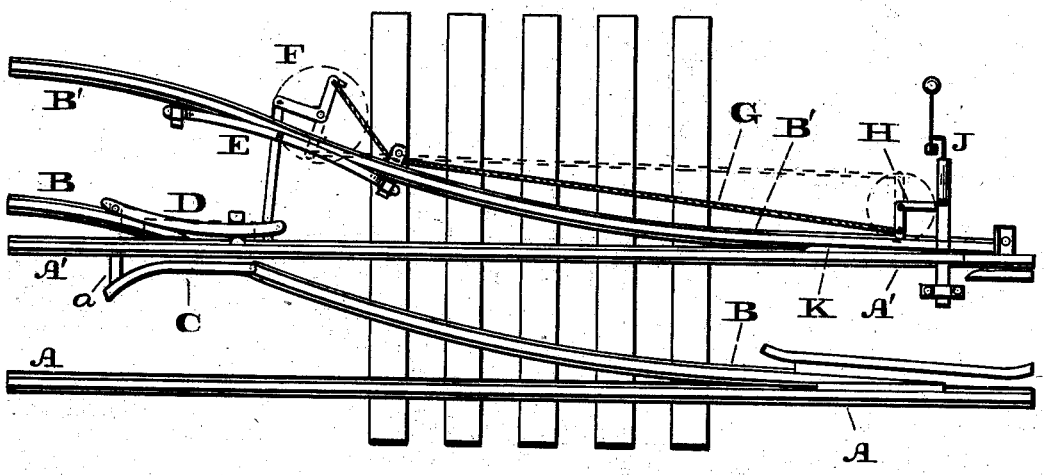


Fig. 2.

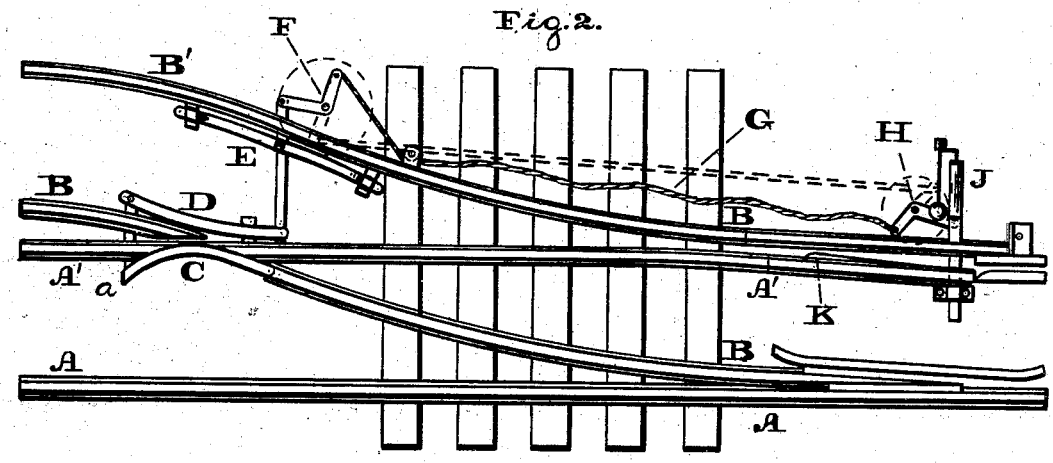
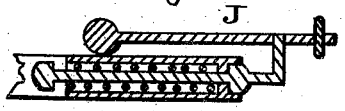


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH S. WILLIAMS, OF RIVERTON, NEW JERSEY.

IMPROVEMENT IN RAILWAY-CROSSINGS.

Specification forming part of Letters Patent No. **193,065**, dated July 10, 1877; application filed March 6, 1877.

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 Railroad-Crossings, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1 and 2 are face views of the crossing embodying my invention. Fig. 3 is a horizontal section of the switch-lever.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a single shifting-piece with the permanent and continuous rails of the main track, said shifting-piece being positively operative to complete the side track, and removable from the main line by the action of the car-wheels in either direction over the main line.

It also consists of the shifting rail or rails which transfer the cars from the main line to the siding connected to a shifting-piece at the crossing, and each independently operative of the other by the action of the car-wheels.

It also consists of a single shifting-piece for affording a crossing of a permanent and continuous rail-track, positively operative to complete the side track, and removable from the main line by the action of the car-wheels in either direction over the main line.

It further consists of a shifting-piece of the crossing, connected to a shifting-guard located on the opposite side of the inner rail of the side track.

It also consists of a shifting-rail of the main line with the adjacent side-line rail allowed to yield in case of obstructions between the main and side-line rail.

It also consists of the combination of the shifting-piece of the crossing and guard, adjacent to the inner rail of the side track, with a shifting guard or guards adjacent to the outer rail of the side track.

It also consists of a filling serving as a guard.

Referring to the drawings, A A′ represent the rails of the main line, and B B′ the rails of the siding. C represents a shifting-piece of the crossing, and it is connected, by a bar, *a*, to a shifting-guard, D, located on the opposite side of the inner rail of the siding. This guard is also connected to a hinged bar, E, which overhangs the outer rail of the siding, and to a crank or elbow lever, F, to which is attached, by a cord or chain, G, another crank or elbow lever, H, located at or near the switch lever J, said lever H being connected to the switch-lever J, which is partly elastic, so as to yield under certain circumstances, and it is connected to the end of the inner rail A′ of the main line, said end being elastic, as is also the end of the adjacent outer rail B′ of the siding, and between the two rails there is a filling, K, which is secured to the outer side of the outer rail of the main track.

The operation is as follows: When the cars leave the main track, and are approaching the crossing, the wheels come in contact with the shifting-guard D, which force the shifting-piece C to afford the bearing for the wheels, together with the shifting-guard attached thereto, so as to allow the flange of the wheels to pass between the shifting-guard and side-line rail B, and also to secure the shifting-piece, attached thereto, in proper line or position to afford the crossing of the main-line track.

When the cars are running off the siding toward the main line in approaching the crossing, the wheels come in contact with the shifting-guard D, attached to the single shifting-piece of the crossing C, which forces and retains it in position until the cars pass over it.

When the cars are running in either direction on the main-line track, the single piece C, which affords the bearing for the wheels on the side-line track, is shifted by the wheels from the main-line track.

When the shifting-piece of the main line A′ is forced from the line of the main-line track by the action of the switch-lever J, it operates as a guard to direct the cars to the side track, and yields to the gage of the track either on the main line or side track, as the case may be, and in case of obstruction between the shifting-piece of the main line A′ and the side-track rail B, adjacent thereto, the side-track rail will recede, so as to allow the shifting-piece to conform to the gage of the main line, and thereby prevent jamming-space.

When the shifting-piece of the main line A′ is in position to transfer cars from the main line to the siding, and is connected with the

crossing C, it will allow each to operate independent of the other by the action of the car-wheels on either the main or side track, thereby preventing the strain upon the parts, and will allow of switching cars in rapid succession alternately to the siding or main line, and when such is not necessary it will allow the shifting-piece C, at crossing, to remain in position to either line, as may be desired, preventing the wear of the operating pieces.

It is obvious that similar results may be effected between automatically-operative crossings of any description, and by various mechanisms.

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

1. The combination of a single shifting-piece with the permanent and continuous rails of the main track, said shifting-piece being positively operative to complete the side track, and removable from the main line by the action of the car-wheels in either direction over the main line, substantially as and for the purpose set forth.

2. The shifting rail or rails which transfer the cars from the main line to the siding, connected to a shifting-piece at the crossing, and each independently operative of the other by the action of the car-wheels, substantially as and for the purpose set forth.

3. A shifting-piece of crossing, connected with a shifting-guard located on opposite sides of the inner rail of the side track, substantially as and for the purpose set forth.

4. The combination of the shifting-piece of the crossing and guard, adjacent to the inner rail of the side track, with the shifting guard or guards, adjacent to the outer rail of the side track, substantially as and for the purpose set forth.

5. The side rail or bearing, adjacent to the shifting-piece of the main line, allowed to recede in case of obstructions between them, substantially as and for the purpose set forth.

JOS. S. WILLIAMS.

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