2 Sheets—Sheet 1.

J. S. WILLIAMS.

RAILROAD SWITCH.

No. 183,440. Patented Oct. 17, 1876.

Fig. 1.

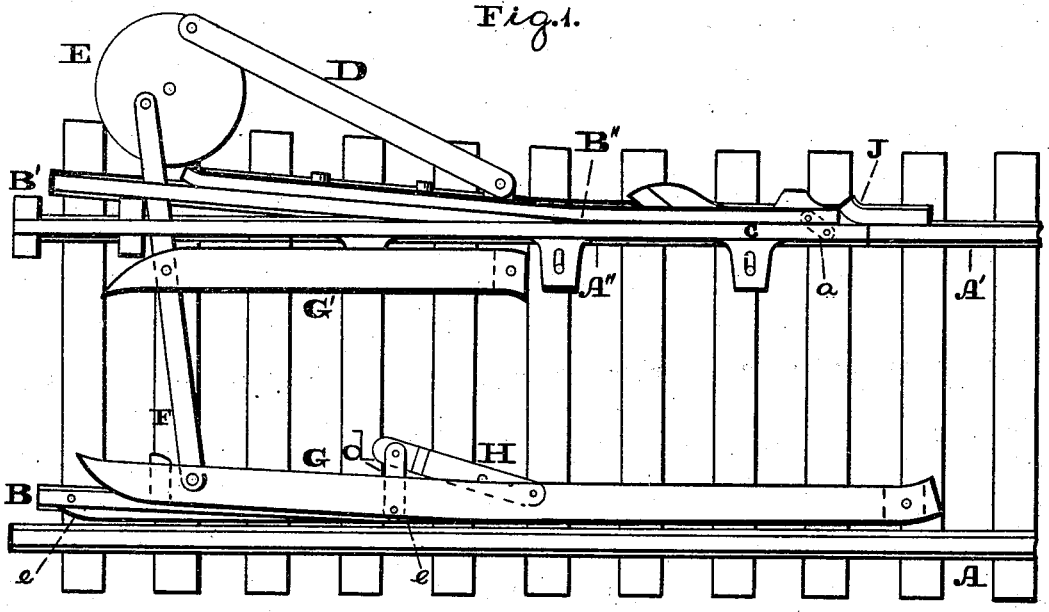


Fig. 2.

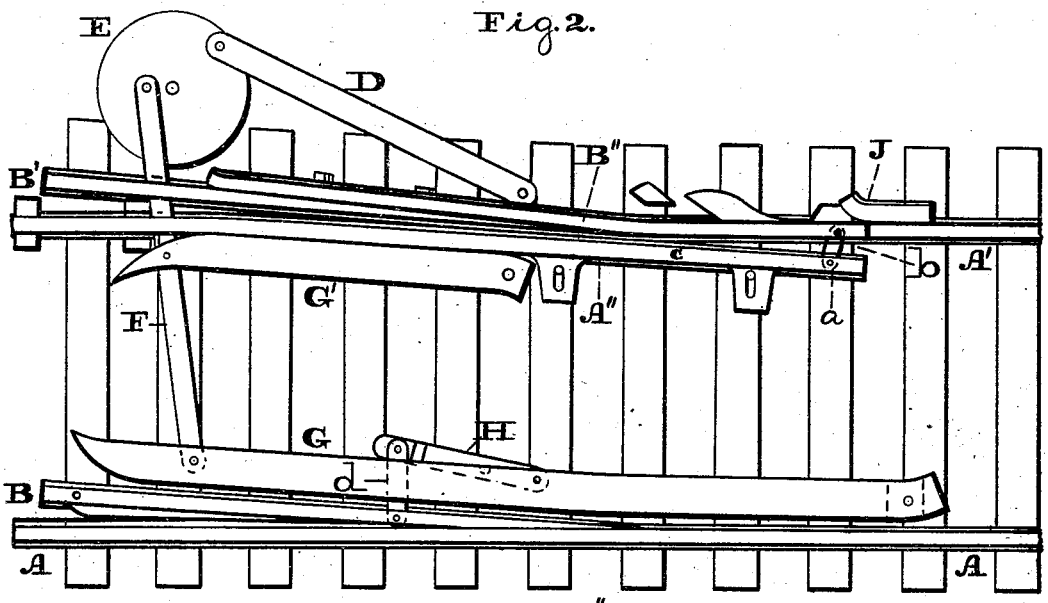
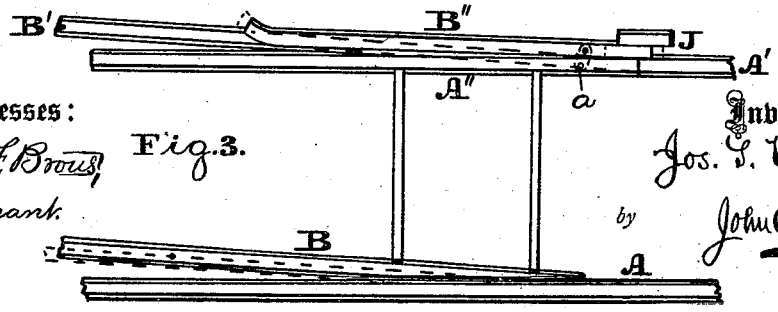


Fig. 3.



Witnesses:

Louis F. Brous,

A. P. Grant.

Inventor:

Jos. S. Williams

by John A. Wiedersheim

Attorney.

2 Sheets—Sheet 2.

J. S. WILLIAMS.

RAILROAD SWITCH.

No. 183,440. Patented Oct. 17, 1876.

Fig. 4.

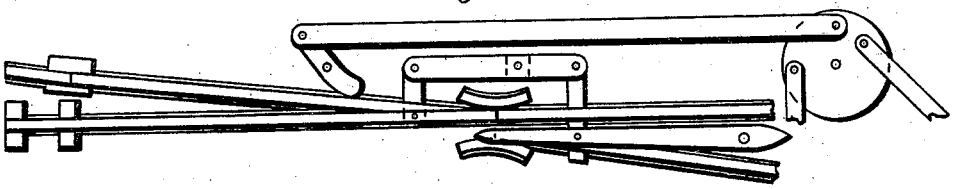


Fig. 5.

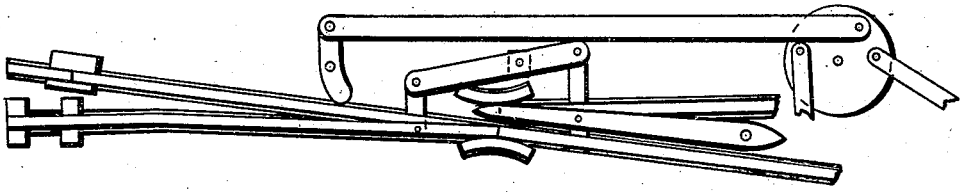


Fig. 6.

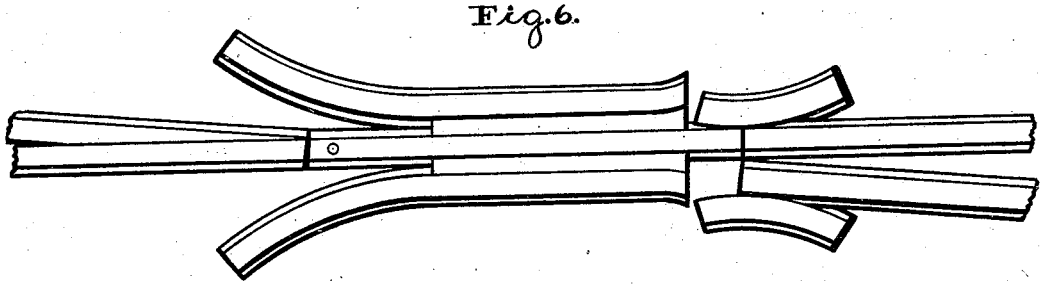
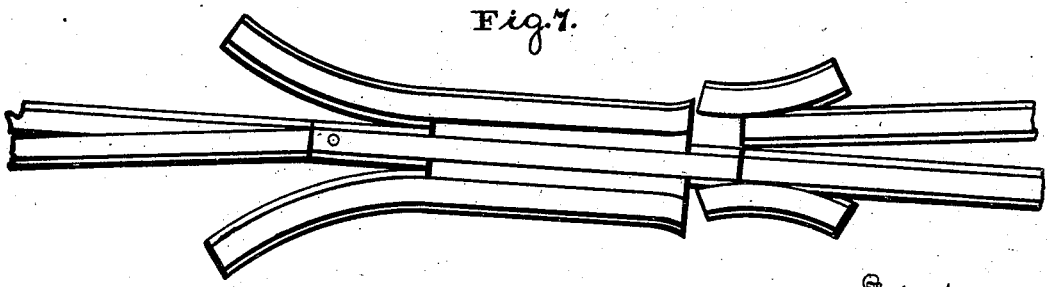


Fig. 7.



Witnesses:

Lewis F. Brous?

A. P. Grant.

Inventor:

Jos. S. Williams,

by John A. Wiedersheim,

Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH S. WILLIAMS, OF RIVERTON, NEW JERSEY.

IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **183,440**, dated October 17, 1876; application filed August 23, 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 Railroad-Crossings; 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 crossing embodying my invention.

Similar letters of reference indicate corresponding parts in the figures.

My invention consists in effecting crossings by means of the main and side line rails, movable with the end of the rails of the main line and side track at the point of crossing, protected by plates, rails, or fillings that take the bearing of the wheels at the open joint, either of the main line or side track, as the case may be. It also consists of a rail or plate shifting lengthwise of the track. It also consists of a connecting-plate with shifting and locking connections.

Referring to the drawings, A A′ represent the rails of the main track, and B B′ the rails of the side track. C represents the movable rail of the crossing, which consists of the length A″ of the main track and the length B″ of the side track, which length B″ slides on the adjacent length of the side track B′. These two rails of the crossing are connected near the head end of the crossing by a pivoted bar, *a*, and the inherent elasticity of the length A″ is rendered available, so that when the main line is intact, the lengths A″ B″ being in contact, as in Fig. 1, and pressure is applied to the crossings at the side occupied by the length B″, the two lengths will be separated, so as to leave a throat, *b*, for the passage of the wheels from the side track. To the length B″ there is pivoted one end of an arm, D, whose other end is pivoted to a horizontally-arranged disk or crank, E, which has pivoted to it an arm, F. G G′ represent two rails or plates which are located between the length A″ and length B, and are pivoted at the ends toward the head end of the crossing. The opposite ends are pivoted to the arm F, and to the guard G there is pivoted a swinging lever, H, which, by means of a pivoted bar, *d*, is connected to the length B of the side track, which length has a pivoted motion, and is separated from the length A when the main line is intact, forming the throat *e* for the passage of the wheels on the main track, and the length B closes and bears again the length A when the cars are running on the side track.

When the main line is intact, and the cars are running on the side track toward the head of the crossing, the flange of the wheel presses and shifts the rail B, or they strike and move the rail or plate G, which, by means of the lever H, shifts the rail B against the rail A. Owing to lever H, rail G, bars F D, and disk or crank E, sliding motion is imparted to the rail B″, which, being connected to the length A″ by the bar *a*, imparts lateral motion to said length A″, and thus opens the throat *b*, whereby the cars may pass from the side track to the main track.

Should the main line be broken, and the cars are running on the main line toward the head end of the crossing, the flanges of the wheels open the throat *e*, thus moving the rail B from the rail A, and, owing to the intermediate levers, bars, and rails between the rail B and sliding length B″, the length A will be shifted so as to be continuous with the length A′ of the main line, whereby the main line is again intact.

Should, however, the rail B refuse to be shifted, the flanges of the wheel, striking the rail or plate G′, cause the bar F to be moved, whereby motion will be imparted to the rail or plate G, and to the rails B and B″, and the main line thus being rendered intact.

J represents an offset or plate against which the heads of rails or length A″ B″ come to bearings, so the bearings of the wheels will be taken by the said offset or plate and joints will be broken.

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

1. The main and side rails, movable to the

nd of the rail of the main line, at the point f crossing, and protected by plates, rails, or llings, that take the bearing of the wheels t the open joint, either of the main line or ide track, substantially as and for the pur- ose set forth.

2. A rail or plate, shifting lengthwise of the track, which operates upon the switch rail or rails, substantially as and for the purpose set forth.

JOS. S. WILLIAMS.

Witnesses:
JOHN A. WIEDERSHEIM,
A. P. GRANT.