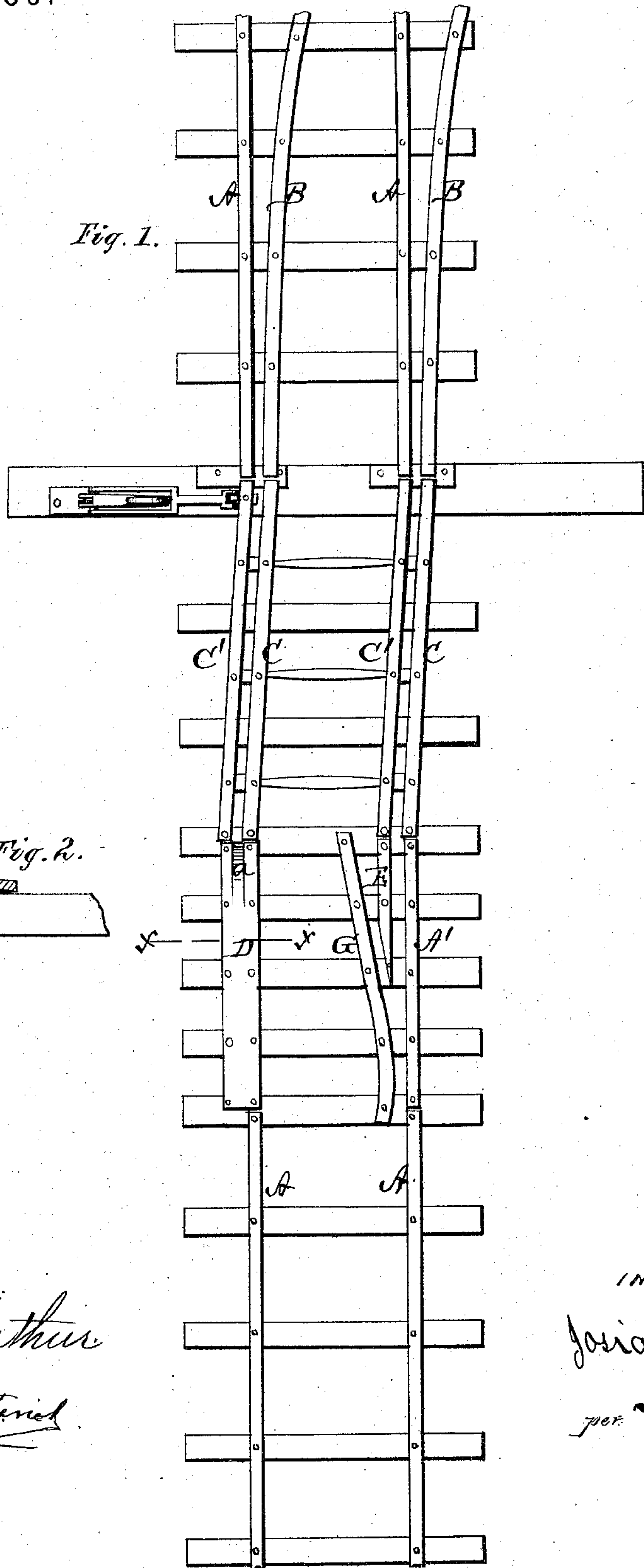


J. GRAY.
Railway-Switches.

No. 157,389.

Patented Dec. 1, 1874.



WITNESSES:
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JOSIAH GRAY, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **157,389**, dated December 1, 1874; application filed September 30, 1874.

To all whom it may concern:

Be it known that I, JOSIAH GRAY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a safety-switch, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my railroad-switch, and Fig. 2 is a section of a part thereof through the line *x x*, Fig. 1.

A A represent the rails of the main track, and B B those of the side track. C C and C' C' are four parallel movable switch-rails connected together and moved in the usual manner, and by any ordinary means. These switch-rails are fastened at one end, and the ends opposite the ends of the side rails B are movable. At the heel end of the switch on one side of the track is a rail, A', corresponding with main rails A on that side, and on the other side of the track is a block, D, fastened stationary to the ties, and provided with an inclined groove, *a*, at the end between the rails C C' on that side of the switch. On the inner side of the rail A' is a point, E, and guard-rail G, as shown. The upper surface of the block D is inclined toward the inside of the track, as shown in Fig. 2.

When the switch is closed, on one side of the track the rails A, C, A', and A, are on a

line, and on the other side the rails A C, block D, and rail A are on a line. When the switch is open the switch-rails C C correspond with the side-track rails B B; and the switch-rails C' C' correspond with the main rails A A, so that if a train should come on the main track the wheels on one side will follow the rail C' and point E to the rail A', and the wheels on the other side will follow the other rail, C', and their flanges run up the inclined groove *a* on to the block D, and then over the said block till the wheels drop down thereon, thus preventing the cars from running off the track.

It will be noticed that the block D, point E, and guard-rail G, are all at the heel of the switch, and spiked down solid and stationary.

I am aware that in many so-called safety-switches a block is used bolted on the outside of the rail, but not forming a part of the main rail as mine does. When the block is made separate from the rail a groove is soon worn between them into which the flange of the wheel reaches, thus rendering the block of no use whatever. By forming the block and rail of one side, or rather letting the block form the rail, this is entirely obviated.

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

The combination with a four-rail switch, C C', of the grooved inclined block D, rail A', point E, and guard-rail G, all constructed as described and arranged, stationary at the heel of the switch, as and for the purposes herein set forth.

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

JOSIAH GRAY.

Witnesses:

GEO. WILLARD,
ALONZO A. ROWLEY.