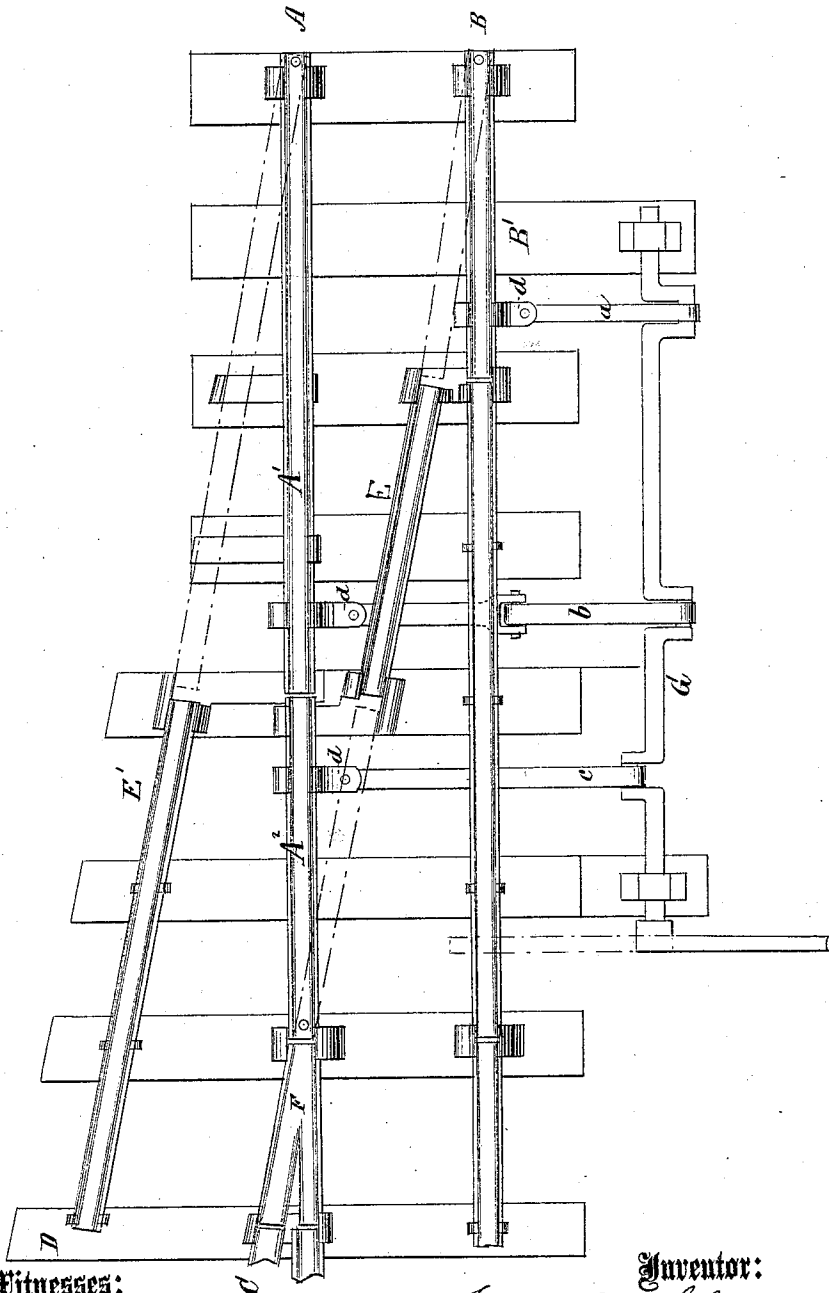


J. M. CLEM.
Railway Switches.

No. 149,990.

Patented April 21, 1874.



Witnesses:
G. Matins.

John C. Lemon

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UNITED STATES PATENT OFFICE.

JAMES M. CLEM, OF LEE COUNTY, ASSIGNOR TO HIMSELF, M. F. ECHOLS, OF OPELIKA, ALABAMA, AND WEST POINT FOUNDRY COMPANY, OF WEST POINT, GEORGIA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **149,990**, dated April 21, 1874; application filed May 17, 1872.

To all whom it may concern:

Be it known that I, JAMES M. CLEM, of the county of Lee and State of Alabama, have invented a new and Improved Mode of Laying Tracks of Railroads; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The invention consists in one short rail connected with three rails that form a double-track connection, as hereinafter fully described and claimed.

In the drawing the figure represents a plan view.

A B represent two lines of a single track. The line A has two switch-rails, A¹ A², and the line B one switch-rail, B'. C D is a branch or turn-off track; E, a fixed rail, corresponding in direction to the line D; and F, a V-rail. G is the crank-shaft, provided with rod-connections *a b c*, attached to clamps *d* that hold the rails. The switches are represented in Fig. 1 of drawing as in position to allow the cars to pass over the straight or main track A B; but if the crank-shaft is turned a half-revolution, the switch A¹ is made to joint with branch line C, and B' with fixed rails E, while A² is moved in the opposite direction until it joints with the fixed rail E. The cars are thus enabled to take the branch track C D.

I am aware that several switch-rails have been operated simultaneously from a main track to connect with a turn-off track; but they have hitherto always allowed some of the joints to be formed of two loose or switch

rails. As the strain on the curve of turn-offs and in an outward direction is always greatest at the end of the lever-switches, or at the joint farthest from the fulcrum, it becomes highly important that two switches shall never form a joint. In order to prevent this, I employ a fixed rail, E, placed obliquely across the main track, and am thus enabled to complete the turn-off with every joint composed of one fixed and one movable rail.

I am also aware that in patent to F. P. Perdue, April 12, 1869, an intermediate rail, the same number of switch-rails, and four joints, are described; but the fixed intermediate rail is made much longer than mine, and the joints are so arranged as to require a too complicated mechanism.

By my construction I am enabled greatly to lessen and simplify the operative mechanism, while I save three bars of rail-iron, thirty feet of rod-iron for the mechanism, sixteen long ties, and dispense altogether with the two fulcrum-levers.

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

The combination, with the main rails A B, of the short fixed intermediate rail E and the three switch-rails A¹, A², and B', all connected to and operated from the single crank-shaft G by the rods *a b c*, as and for the purposes herein set forth.

JAMES M. CLEM.

Witnesses:

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