2 Sheets—Sheet 1.

J. W. HARDING.

RAILROAD-SWITCHES.

No. 194,818. Patented Sept. 4, 1877.

Fig. 1.

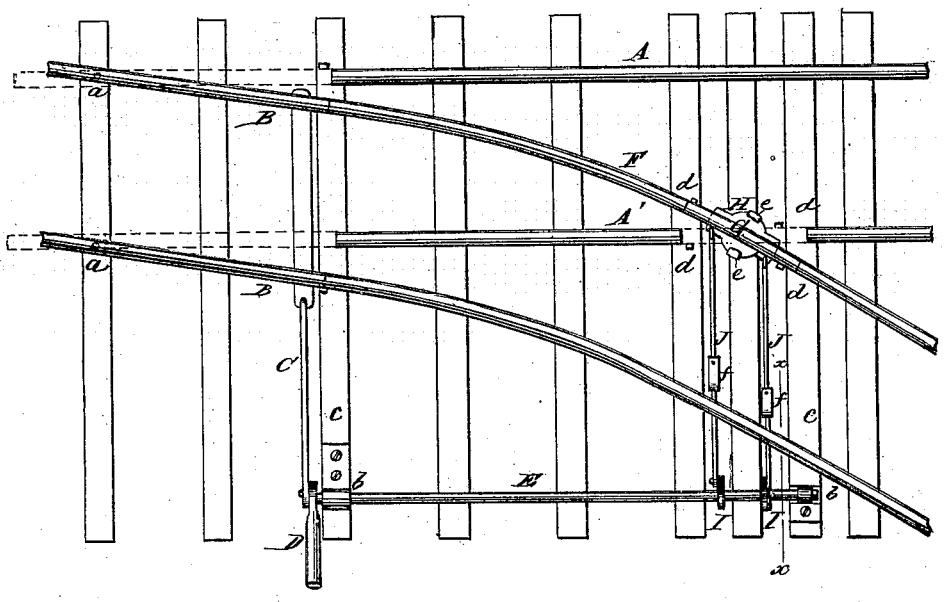
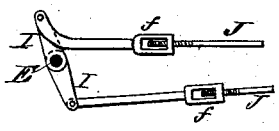


Fig. 2.



WITNESSES:

H. Rydquist

J. A. Scarborough

INVENTOR:

J. W. Harding

BY Munn & Co

ATTORNEYS.

2 Sheets—Sheet 2.

J. W. HARDING.

RAILROAD-SWITCHES.

No. 194,818. Patented Sept. 4, 1877.

Fig 3.

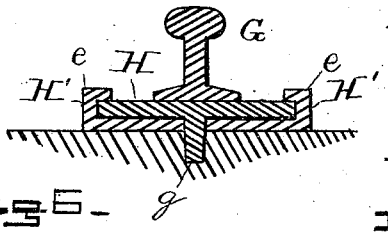


Fig 4.

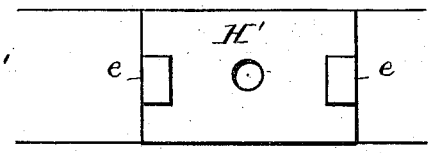


Fig 6.

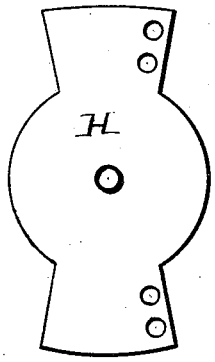


Fig 5.

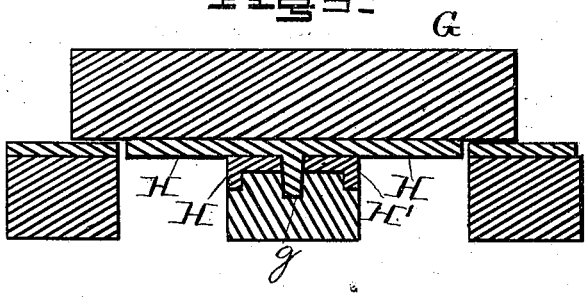
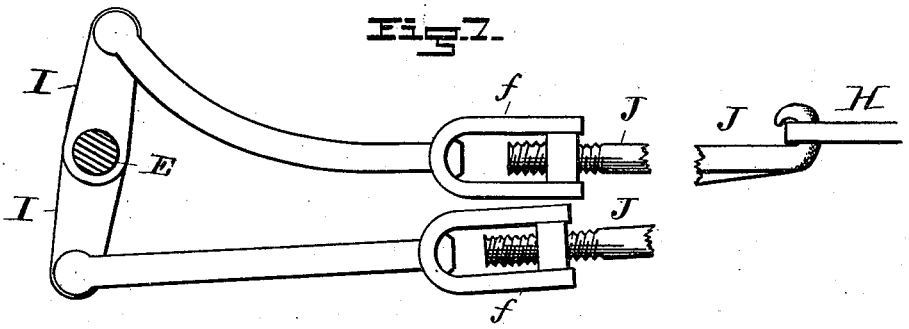


Fig 7.



WITNESSES:

W. B. Brown

W. C. Chaffee

INVENTOR:

J. W. Harding

PER

N. J. Abbot

ATTORNEY.

UNITED STATES PATENT OFFICE.

JOHN W. HARDING, OF COLUMBUS, TEXAS.

IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **194,818**, dated September 4, 1877; application filed December 30, 1876.

To all whom it may concern:

Be it known that I, JOHN W. HARDING, of Columbus, in the county of Colorado and State of Texas, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to certain improvements in railway-switches; and the invention consists in a switch for wooden or iron railway-tracks constructed and arranged 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, arrangement, and operation, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view. Fig. 2 is a section on the line *x x* of Fig. 1. Fig. 3 is a transverse section through the pivoted plate and rail. Fig. 4 is a plan view of the pivoted rail and plate bearing. Fig. 5 is a central longitudinal section of the pivoted rail-plate and its bearings. Fig. 6 is a plan view of the rail-plate, and Fig. 7 is a view showing the device connecting the rock-shaft with the pivoted rail-plate.

A A′ are the main-track rails, and B B are the ordinary switch-rails, pivoted at *a*, and connected by the rod C with the switch-lever D, which is secured to the end of a rocking shaft, E. This rocking shaft is provided with journal-boxes *b b*, that are attached to the cross-ties *c c*.

The main-track rail A′ and the branch rail F are cut away, as shown in Fig. 1. The short rail G is secured to the plate H by bolts or other suitable means. The plate H is centrally provided with a pivot, *g*, which extends down through the bearing-plate H′ into the cross-tie, as shown in Figs. 3 and 5, thereby giving a rigidity to the plate H, and forming a center upon which the rail G is turned.

The plate H′ is secured to the cross-tie in any suitable manner, and has ears *e e*, that lap over the plate H to hold it in place and allow the required movement of the rail G, and make the desired connection with the main track or switch. By this construction and arrangement the liability of any obstruction, such as stones, sand, &c., preventing the rail G from making the proper connection is entirely obviated.

The rail G is regulated in its movement by stop-pins *d d*, arranged in such a manner as to stop the rail G at the right place, and insure a complete connection with the main track or switch, as the case may be.

I I are arms projecting from opposite sides of the shaft E, and connected by means of rods J J with opposite ends of the plate H, so that when the switch is changed by moving the lever D the rail G is also turned until it comes in contact with the stop-pins *d*, when a continuous track will be made.

Turn-buckles *f f* are provided, and by means of which the length of the rods J J is regulated.

I am aware that switches having a short rail centrally secured to a cross-tie, and operated so as to make a continuous track when adjusted to the main track or switch, are old, and do not, therefore, desire to broadly claim such; but what I do claim is the special construction and arrangement of the parts specified.

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

1. The combination of the rail G, plate H, centrally provided with a pivot, *g*, plate H′, having ears *e*, and stops *d*, all constructed and arranged as shown, and operating substantially in the manner and for the purpose set forth.

2. The combination of the lever D, rock-shaft E, rod C, arms I, rods J, turn-buckles *f*, plate H′, having ears *e*, plate H, rail G, and stops *d*, all arranged as shown, with the main track and switch-rails, substantially as described.

JOHN WALLER HARDING.

Witnesses:

I. TOWELL,

P. E. COLLINS.