J. T. RICHARDSON.
Railroad-Frog.

No. 218,451. Patented Aug. 12, 1879.

Fig. 1.

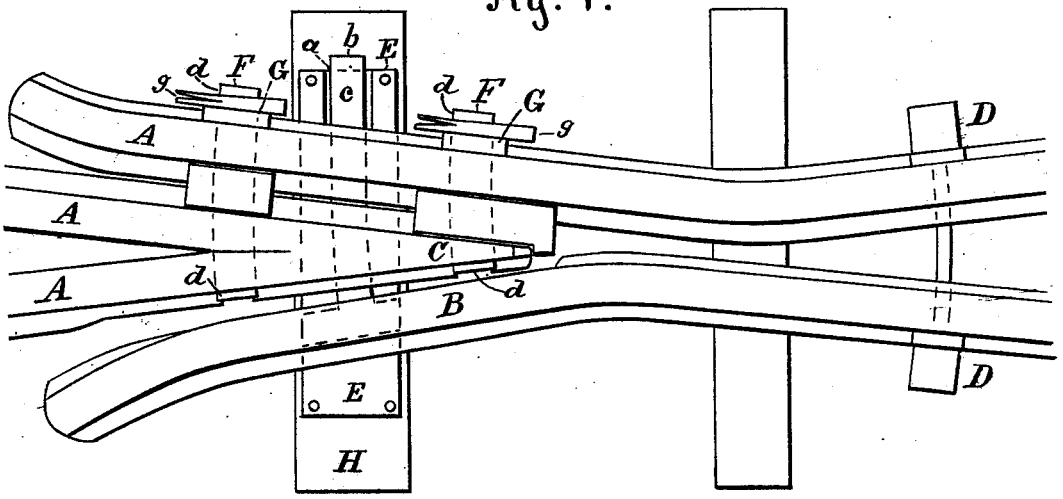


Fig. 2.

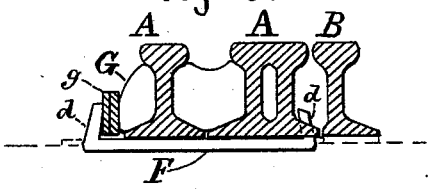


Fig. 5.

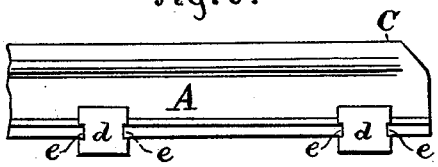


Fig. 3.

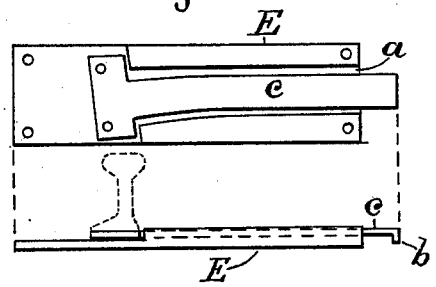
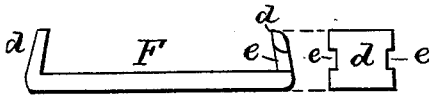


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN T. RICHARDSON, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. **218,451**, dated August 12, 1879; application filed May 26, 1879.

To all whom it may concern:

Be it known that I, JOHN T. RICHARDSON, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Frogs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to railway-frogs; and consists in certain improvements in the construction of the same, as hereinafter shown and described.

I provide a foundation-plate or seat, to be secured to a cross-tie, upon which the fixed rails and the movable or wing rail rest, the said plate being grooved or recessed lengthwise, so that a tongue or guide, one end of which is fastened to the bottom of the movable wing-rail, may move in the recess or groove, the opposite end of the tongue being turned down, to form a stop to act against the end of the plate, and thus limit the movement of the wing-rail, keeping the latter in proper position, and preventing any irregular movement of the same. I also provide, for further securing the fixed rails in place, an improved construction of binding-bars, these being used in connection with brace-blocks, said bars passing under the rails, and having their ends turned up to inclose them.

The flange of the fixed rail, next to the movable wing-rail, is notched to receive the locking end of the binding-bar, the latter being also recessed, as shown, so that it sinks into the notch in the base or flange of the rail, and laps somewhat thereon, thus preventing the bar from slipping or getting out of place, and allowing the movable wing-rail to be brought against the fixed rail adjoining.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan of a railway-frog provided with my improvements. Fig. 2 is a transverse section of the same. Fig. 3 illustrates the foundation-plate and the tongue. Fig. 4 represents one of the binding-bars, and Fig. 5 shows the notched ends of binding-bars in place.

A designates the fixed rails, B the movable wing-rail, and C the point formed by converging rails.

The spring D, of ordinary construction, holds the movable wing-rail to the fixed rail, and allows it to be pressed therefrom.

E is the foundation-plate, fastened to a cross-tie, H, and forming a seat for the frog. A groove or way, *a*, is formed lengthwise in the plate, for the tongue or guide *c*, the latter being fastened at one end to the bottom of the movable wing-rail B, and having its opposite end turned down, so as to form a stop, *b*, which acts against the end of plate E when the movable wing-rail is pressed from the fixed rail, and thus limits its movement.

As shown in the drawings, the binding-bars F extend transversely under the rails, and have their ends turned upward, so as to inclose them.

The vertical ends *d* of these bars are preferably constructed as shown herein, one end inclosing a bracing-block, G, which sets against a rail, and a wedge, *g*, and the other end, which is next to the movable wing-rail B, being notched at *e* on both sides, so as to fit in a notch in the base or flange of the fixed rail, and lap somewhat on the flange.

By this construction the notched end *d* of the binding-bar is out of the way, and the movable wing-rail B may be brought closely against the fixed rail. The bar F is also held firmly in its place and prevented from slipping.

The tongue or guide *c*, one end of which is fastened to the bottom of the movable wing-rail, passes under the fixed rails through the way *a* in the plate E, and serves to regulate the movement of the wing-rail and hold it in its proper vertical position, preventing any twisting or irregular movement of the movable rail.

One advantage of this construction of frog is this: The frog being supported by the cross-ties only, instead of a solid plate, as heretofore, it is less subject to accumulations of snow about the rails. The snow is allowed to sink

below the rails and pass away, the plate E occupying no greater space than the cross-tie on which it rests.

I claim as my invention—

1. In a railway-frog, the grooved or recessed plate placed transversely under the fixed rails, in combination with the guide *c*, fastened to the movable wing-rail, and provided with a stop, *b*, for the purpose set forth.

2. A binding-bar having its ends turned upward to inclose the rails, and notched, as shown, so as to sink in the notched flange of the rail and lap on the said flange, as herein set forth.

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

JOHN T. RICHARDSON.

Witnesses:
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