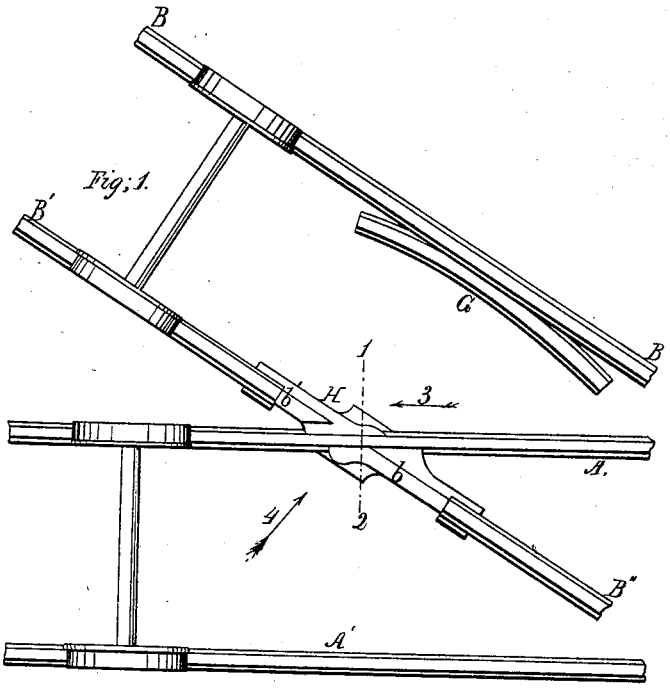
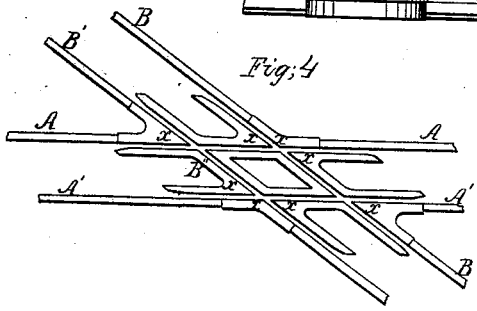
W. WHARTON, Jr.

RAILROAD FROG.

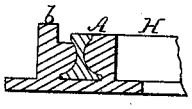
No. 48,859. Patented July 18, 1865.



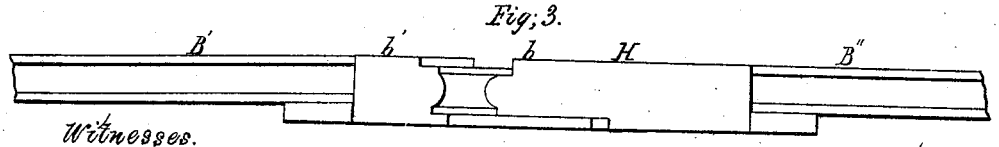
Fig; 1.



Fig; 4



Fig; 2.



Fig; 3.

Witnesses.

Wm Albert Steel.

John Parker.

Inventor.

Wm Wharton Jr.

UNITED STATES PATENT OFFICE.

WM. WHARTON, JR., OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. **48,859**, dated July 18, 1865.

To all whom it may concern:

Be it known that I, WILLIAM WHARTON, Jr. of Philadelphia, Pennsylvania, have invented an Improved Frog for 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 drawings, and to the letters of reference marked thereon.

My invention consists of a frog having a recess for the reception and lateral and vertical retention of a continuous rail of a main track, and so constructed and so arranged in respect to a rail of an intersecting track as to afford a medium for permitting wheels of cars traversing the latter track to pass across the rail of the said main track, all substantially as described hereinafter, so that many well-known defects of ordinary frogs may be obviated.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a plan view of portions of two intersecting tracks, illustrating my improved frog; Fig. 2, a transverse section, drawn to an enlarged scale, on the line 1 2, Fig. 1, looking in the direction of the arrow 3; Fig. 3, a side view of the frog, looking in the direction of the arrow 4; and Fig. 4, a diagram showing an ordinary arrangement of frogs, and illustrating the advantages of my invention.

Similar letters refer to similar parts throughout the several views.

A and A′ represent rails of the main track, and B, B′, and B″ the rails of an intersecting track, G being a guard-rail situated adjacent to the rail B, and H being the frog, situated at the point where the rail A of the main track crosses the rail B′ of the said intersecting track.

Before giving a minute description of my invention it will be well to allude to the ordinary frogs in general use at the intersection of two tracks. This arrangement will be readily understood on referring to the diagram, Fig. 4, in which the letters of reference given above designate the tracks corresponding with those shown in Fig. 1. It will be observed that this the usual arrangement of frogs involves the necessity of using what are termed "points" *x*, which, although generally made of steel toward the end, soon become worn and useless, owing to the strains and shocks to which they are subjected by passing wheels. These frogs, cumbrous and costly as they are in themselves, also demand the employment of an array of heavy and expensive guard-rails, and tend to break the wheels and otherwise deteriorate the rolling stock.

The object of my invention has been to obviate these evils, an end which is fully attained by my improved frog, the construction of which I will now proceed to describe more minutely.

The frog H is of cast-iron, and may be made of one piece, its rib *b′* forming a continuation of the rail B′, and the rib *b* forming a continuation of the rail B″.

Across the body of the frog is made a recess of a form corresponding to that of the rail A of the main track, and of such dimensions that the rail will fit snugly in and be retained vertically and laterally by the said recess of the frog, as best observed on reference to the transverse section, Fig. 2, and this without interfering with the continuity and entirety of the rail. The rib *b′* terminates at such a distance from the outside of the rail A that there can be no possibility of the outer edges of the treads of the wheels which traverse the main track coming in contact with the said end of the rib *b′*. There is also space sufficient between the end of the rib *b* and the inside of the rail A to permit the flanges of the wheels to pass freely, the space being continued across the frog.

It will be understood that frogs similar or nearly similar to the frog H are situated at the intersections of the other rails of the two tracks.

The ribs *b* and *b′* of the frogs are elevated so far above the rails of the main track that the flanges of the wheels traversing the intersecting track will pass across the rails of the main track.

The rails of the intersecting track may be gradually inclined downward to the same level as those of the main track. Such downward inclination, however, should commence from such a point that it cannot interfere with the proper crossing of the main track by the wheels. This necessary elevation of the intersecting track at the frogs and the open space demanded there will of course have the usual jarring effect on the cars which traverse the said intersecting track; but it should be remembered

that the latter track is such as is required for local traffic only, as the roads for conveying goods and materials to and from factories, mines, &c., no very high rate of speed being required on such roads, and the traffic being very much less than that on the main line. The rails of the main track, however, are in the best possible condition as regards permanency and solidity for permitting the cars to traverse them at the highest rate of speed, inasmuch as the rails of the main track are continued through and firmly retained by the frogs, while the permanency of the latter is maintained by the rails.

The use of the guard-rail G and the manner in which the cars can traverse either track freely will be readily understood without description.

It will also be understood that my improved frog is in better condition to resist the lateral and rocking strains imparted by cars traversing the intersecting track than the usual frogs, and that the cars traversing the main track cannot have any injurious effect whatever on the frog, as the rails of that track are continuous and uninterrupted by the frog.

It will also be evident that my improved frog is much less cumbrous and costly than those in common use.

I claim as my invention and desire to secure by Letters Patent—

A frog, H, having a recess for the reception and lateral and vertical retention of a continuous rail of the main track, and so constructed and so arranged in respect to a rail of the intersecting track as to afford a medium for permitting the wheels of cars traversing the latter track to pass across the rail of the said main track, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. WHARTON, JR.

HENRY HOWSON,
W. J. R. DELANY.