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W. H. Finckel.  
Will. L. Peyton.

John L. Rupp.

John W. Anderson  
Edgely

# United States Patent Office.

JOHN C. RUPP, OF NEWARK, DELAWARE.

Letters Patent No. 109,670, dated November 29, 1870.

## IMPROVEMENT IN RAILWAY-FROGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN C. RUPP, of Newark, in the county of New Castle and State of Delaware, have invented a new and useful Improvement in Railroad Frogs; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing which is made a part of this specification, and in which—

The figures are plan-views of two crossing tracks, exhibiting my devices located at the point of intersection for the purpose of guiding the wheels in their proper course in passing across the intersecting rails.

I will premise that I am aware of the existence of numerous contrivances, termed frogs, which are designed to be actuated by the wheels of a locomotive for the purpose of affording at the intersection of tracks a continuous tread and guide for the wheels of the respective trains which run upon said tracks.

My invention relates to certain novel devices which are believed to be more simple and efficient than any heretofore known, inasmuch as it comprises but few parts, which are adapted to invariably respond to the action of the locomotive wheels in putting the track in order for the passage of a train over the crossing, whatever may be the direction of the train upon either track.

In the drawing—

A A' may represent the rails of the main track, and B B', the rails of the crossing track.

At the point where the rails of the respective tracks cross, as in the case of the rails A' B', shown in the drawing, is situated a guide-piece or frog, C, which is suitably pivoted, so that it may be turned from one position to another and thereby made to form a continuation of either A' or B', according as the cars are traversing the track A A' or B B'.

This change in the position of the frog C is effected by the action of the locomotive-wheels, and I shall now refer to the parts by which the desired end is attained.

D is a bar, susceptible of a transverse, endwise movement in relation to the rails.

A suitable connection is made between the frog C and the bar D, so that the sliding movement of the said bar will have the effect to turn the frog upon its vertical pivots, while the vibratory movement of the frog is, in turn, adapted to give a sliding movement to the bar.

The bar D is provided, upon its upper side and near its ends, with clamps, *d d*, or other devices, which form

loose or sliding connections between the bars E E and the said bar D.

The bars E E may consist of railroad-rail sections, curved and having terminal formations, as shown, and they are secured to ties at *e e* by pivots, so that they may impart motion to or receive it from the frog C through the medium of the bar D.

The ends of the rails of the respective tracks are bent or deflected at one side of the joint, as seen at *a' b'*.

The operation may be described as follows:

Supposing the parts to be in the relative position which they occupy in fig. 1, it is manifest that the main track A A' is in proper order for the passage of the car-wheels thereon, in either direction, while the other track B B' requires a change in the position of the frog C in order that wheels running on B B' may be properly guided and maintained in their course at the crossing. The change referred to would give the parts the position shown in fig. 2, in which the track A A' is "closed," and B B' "open." Let it be supposed that the parts are disposed as shown in fig. 1, and that a train is moving on the track B B', in the direction of arrow 1. The lateral pressure of the forward wheel-flange upon the side of the frog would throw the frog into the position in which it is shown in fig. 2, the wheels being thus made to preserve their proper course and degree of elevation at the crossing.

But supposing the cars to be traveling in the direction of arrow 2 upon the rails B B', the parts being in the position represented in fig. 1. Then the desired change in the position (from that shown in fig. 1 to that in fig. 2) would be effected by the action of the forward wheel upon the end of the bar E, said bar being turned upon its pivot so as to give the necessary movement to the bar D and frog C. The pivoted bar E performs a similar function in connection with the track A A' and the frog C.

The above contrivance, it will be seen, prepares the track at crossings for the passage of the cars in either direction upon either of the tracks.

Having thus described my invention,

What I claim as new herein, and desire to secure by Letters Patent, is—

The bars D and E E, combined with the frog C and with the rails A A', B B', substantially as and for the purpose herein set forth.

The above signed by me this 17th day of November, 1869.

JOHN C. RUPP.

Witnesses:

JOHN A. WIEDERSHEIM,  
T. C. CONNOLLY.