

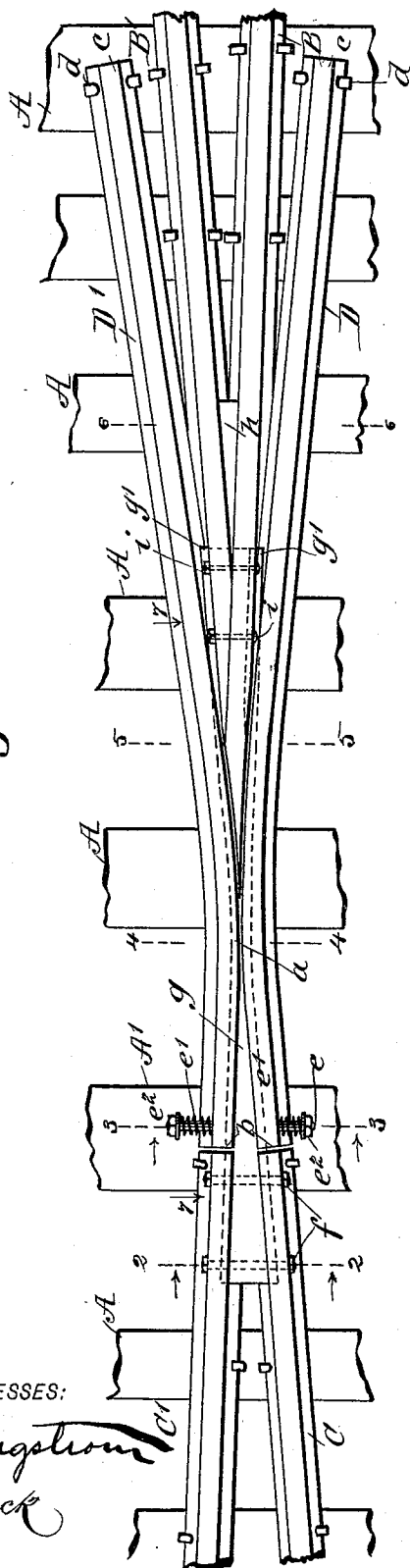
(No Model.)

D. HORRIE.
RAILROAD FROG.

No. 519,577.

Patented May 8, 1894.

Fig. 1



WITNESSES:

J. a. Bergstrom
C. Sedgwick

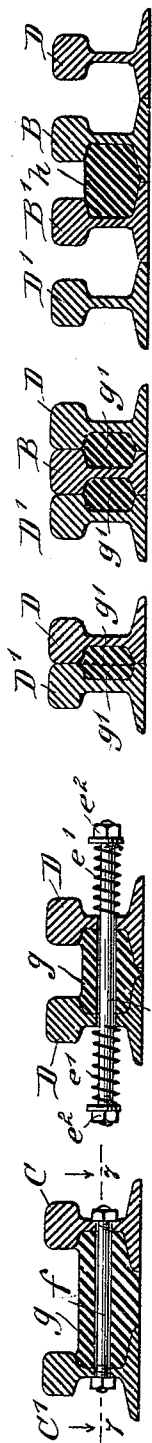


Fig. 2

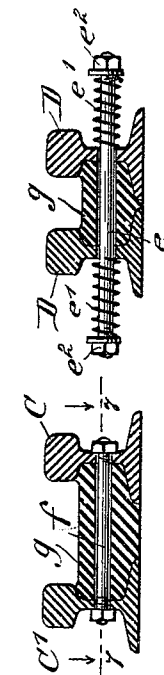


Fig. 3



Fig. 4

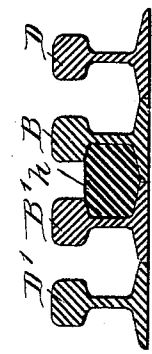
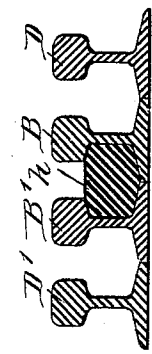


Fig. 5



UNITED STATES PATENT OFFICE.

DAVID HORRIE, OF KAUKAUNA, WISCONSIN.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 519,577, dated May 8, 1894.

Application filed September 2, 1893. Serial No. 484,610. (No model.)

To all whom it may concern:

Be it known that I, DAVID HORRIE, of Kaukauna, in the county of Outagamie and State of Wisconsin, have invented a new and useful Improvement in Railroad-Frogs, of which the following is a full, clear, and exact description.

My invention relates to improvements in railroad frogs of a style wherein railway rails are utilized to produce the frog.

The objects of my invention are to produce a frog of the style indicated, which will be of a simple, durable construction, and that will be adapted for the traverse of rolling stock in either direction of travel, and facilitate the safe crossing of one track over another track.

To these ends, my invention consists in the peculiar construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a view in cross section on the line 2—2 in Fig. 1. Fig. 3 is a transverse sectional view on the line 3—3 in Fig. 1. Fig. 4 is a transverse sectional view on the line 4—4 in Fig. 1. Fig. 5 represents parts in transverse section on the line 5—5 in Fig. 1. Fig. 6 is a transverse sectional view on the line 6—6 in Fig. 1; and Fig. 7 is a sectional plan view of parts on the line 7—7 in Fig. 2, and embraced between the points 7—7 in Fig. 1.

Upon the railroad ties A A', that are suitably spaced apart and located upon a properly graded road bed, (not shown) the members comprising the improved frog are imposed, which consist essentially of the point rails B, B', converged track rails C, C', and the swinging rails D, D'.

The track rails C, C', are respectively a rail of two tracks that are to cross each other at the frog, and said rails by their angle of convergence determine the degree of lateral deviation between the two railroad tracks.

The swinging rails D, D', are afforded a sufficient length to adapt them to suit the relative dimensions and arrangement of other parts of the frog, and at the point marked a, at a correct distance from the ends b, of the

swinging rails, said rails are inwardly bent a similar degree, so that the adjacent sides of the heads of the rails will loosely impinge, the swing rails being arranged to nearly abut their ends b upon the converged ends of the track rails C, C', and the portions of the rails D, D', that lie between the points marked a and b, are thus caused to align with the nearest track rail as shown in Fig. 1.

The parts of the swinging rails D, D', which project away from the point a, to their terminals c, are so diverged that the inner edges of the heads on the rails D, C', will be aligned and also the inner edges of the heads on the rails D' and C.

The ends c of the swinging rails D, D', are spiked or otherwise secured upon a cross tie A, as at d, their opposite ends b resting loosely upon the tie A', being held together by the transverse bolt e, that passes through opposite perforations formed in the webs of the swinging rails near their ends b. The bolt e, projects at each side of the rails D, D' of a suitable length to receive the springs e', the nuts and washers e², serving to retain the springs compressed a proper degree against the rails, by their engagement with the threaded ends of the bolt.

Between the rails C, C', and D, D', where they meet, a wedge-shaped filling block g, is introduced, which is preferably formed of tough elastic wood that engages with its edges the webs of the rails named as shown, and is secured in place by bolts or rivets f. A sufficient length is given to the block g, to permit it to occupy the space between the portions of the rails D, D', that lie between the points b and a, and from the latter named point forwardly extend as two limbs g', that are integrally produced on the small end of the block by longitudinally slotting it at its transverse center, said limbs being afforded a proper length, and such dimensions in cross section, as will adapt them to fill the recess at the inner sides of the swinging rails and also have contact with the webs of the point rails B, B', as will presently be explained.

The point rails B, B', which are located intermediately of the rails D, D', are made from the same style and weight of railroad rail as the track rails C, C', and swinging rails D, D', one of the point rails B having a long slope

cut on one side to render its end portion acutely wedge-shaped, and in a like manner the other point rail B', is cut away to taper it from one side, this sloped side being bolted 5 or otherwise secured against the end portion of the rail B, immediately rearward of the sloped wall on its end.

The degree of divergence produced between the rails B, B', is such as will best adapt the 10 frog point to co-act with the other rails C, C', D, D'; preferably the taper of the joined point rails is similar to that afforded to the filling block g, and between the point rails a wedge-shaped filling block h, is introduced 15 that is located in the recess formed between the rail webs, and is retained in place by the bolts or rivets i, that hold the points of the rails B, B', together.

The apex of the divergent frog point rails 20 B, B', is introduced between the bent portions of the swinging rails D, D', and lies near their point of nearest approach to each other, and as shown in Fig. 1, the degree of separation between the secured ends c of the 25 rails D, D', and the point-rails B, B', opposite said ends, is sufficient to afford a free passage in either direction, for car wheels that traverse the point rails with their peripheries.

The extended limbs g', on the filling block 30 g, closely fill the spaces between the webs of the swinging rails and the point rails B, B', for a proper distance from the apex of the latter, thus providing a lateral support for the thin point, as when a car is made to traverse 35 one of the track rails C, C', in the direction of the point on the joined rails B, B', the peripheries of its wheels will run on the short portion of one swing rail between the points b, a, thereby holding the engaged swing rail stationary while the flanges of the wheels press 40 the other swing rail outwardly a sufficient degree to permit them to pass between the rails D, D'.

It will be seen, that when one swinging rail 45 D or D', is occupied by a car wheel between the points b a, the lateral yielding of the other swinging rail, which is permitted by the compression of the springs e', will draw the traversed swinging rail close against the wedge 50 filling g, and its limb g', that is between the occupied swinging rail and the point rail that is subsequently traversed by the wheels,

thereby preventing the improper spreading of the traversed swinging rail while a car or train is passing the frog; this being the case if 55 cars are moved in either direction on the frog.

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

1. The combination with converged track 60 rails, of swinging rails bent near one end to approach each other, spring-pressed at said ends and fast at their other ends, and a frog point between the secured ends of the swinging rails, substantially as described. 65

2. The combination with rail supports, and converged track rails, of swinging rails secured at one end of each on a rail support and bent near one end to approach each other, and having a yielding connection at their free 70 ends, and a frog point intermediate of the swinging rails and having its apex near their bent portions, substantially as described.

3. The combination with cross ties, converged track rails thereon, and swinging rails 75 secured by one end of each on a tie and having their other ends located near the converged ends of the track rails and bent near one end to approach each other immediately of their ends, of a transverse bolt passing through the swinging rails near their free 80 ends, springs secured on the ends of said bolt, a wedge-shaped filling block between the converged ends of the track rails, and a frog point intermediate of the swinging rails and 85 having its apex near their bent portions, substantially as described.

4. The combination with supported converged track rails, and swinging rails bent near one end to approach each other near one 90 end, and arranged to align their shorter portions with the track rails, of a wedge-shaped filling block secured between the track rails and the adjacent ends of the swinging rails, and having diverged limbs lying along the 95 inner sides of the swinging rails, and an intermediate frog point the apex of which is introduced between the bent parts of the swinging rails, substantially as described.

DAVID HORRIE.

Witnesses:

M. C. CONNORS,
C. O. SMITH.