

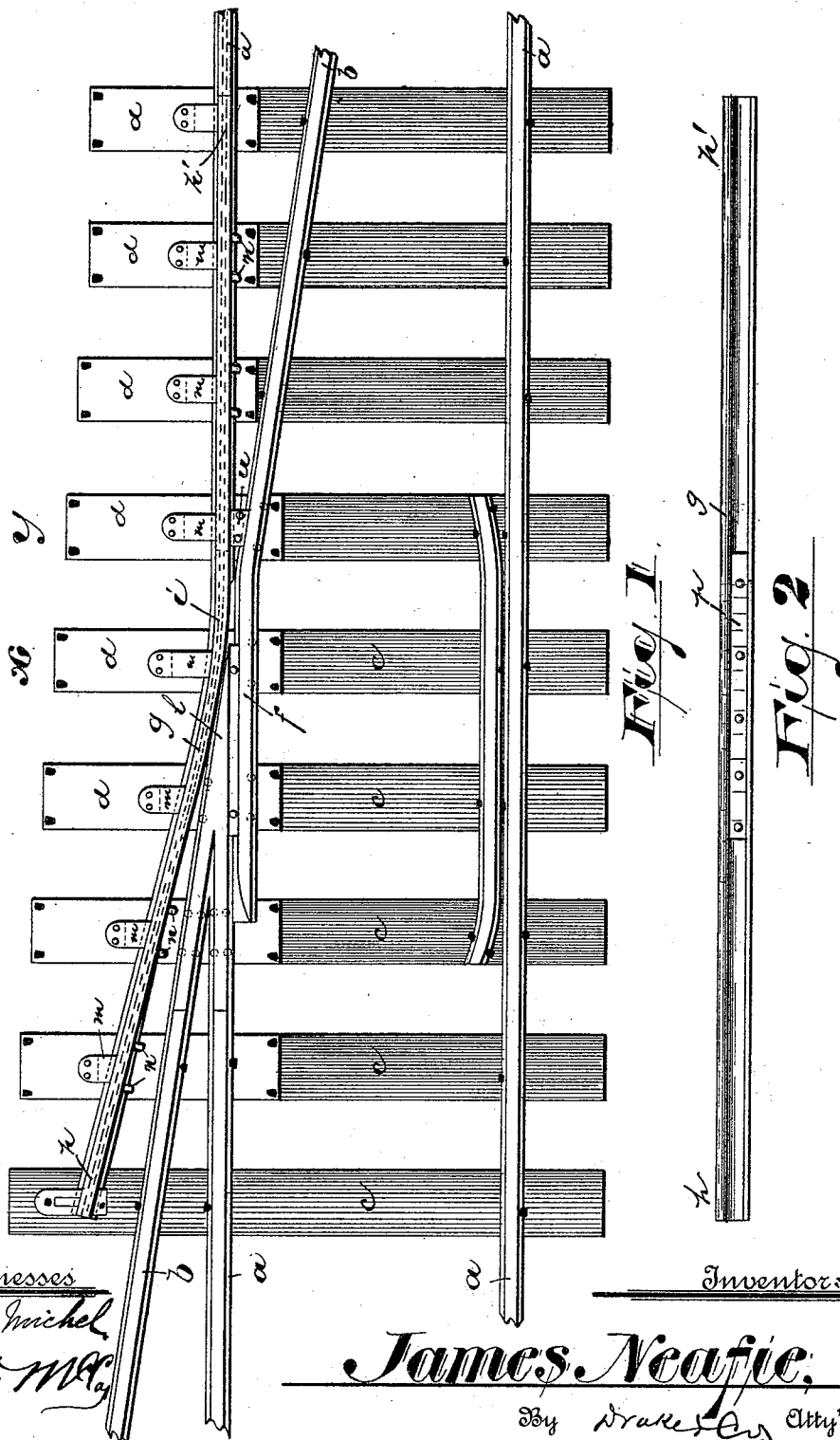
(No Model.)

2 Sheets—Sheet 1.

J. NEAFIE.
RAILWAY FROG.

No. 497,455.

Patented May 16, 1893.



Witnesses

Oscar A. Michel
J. H. McLaughlin

Inventor:

James Neafie

By Drake & Co. Attys.

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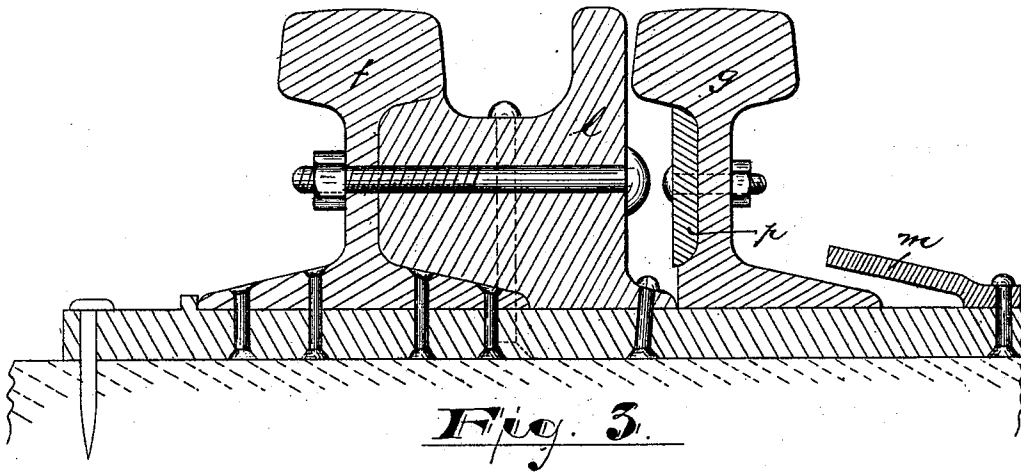


Fig. 3.

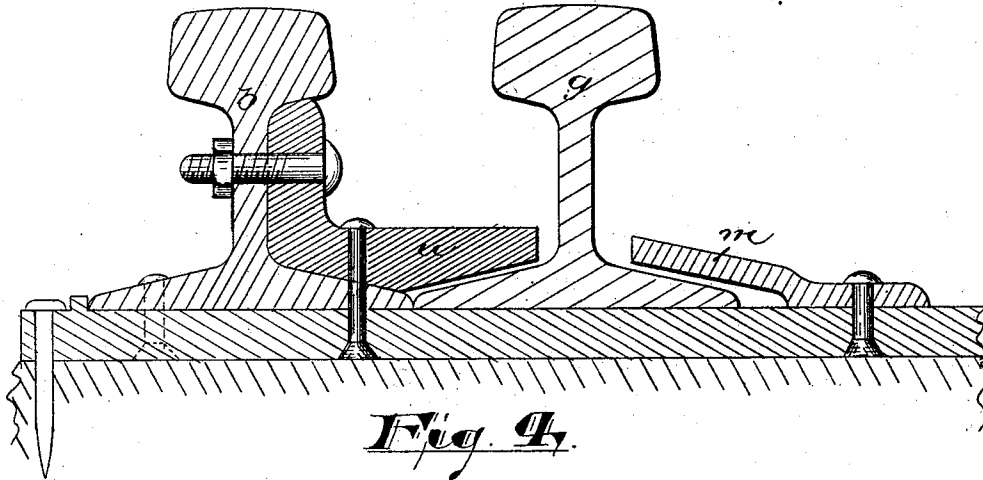


Fig. 4.

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UNITED STATES PATENT OFFICE.

JAMES NEAFIE, OF BOONTON, NEW JERSEY.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 497,455, dated May 16, 1893.

Application filed March 29, 1892. Serial No. 426,875. (No model.)

To all whom it may concern:

Be it known that I, JAMES NEAFIE, a citizen of the United States, residing at Boonton, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Railway-Frogs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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.

The object of this invention is to more certainly prevent the derailing of a train at a frog or crossing, to reduce the hammering effect and to secure a more even and smooth movement thereat, to reduce the cost of construction and to obtain a more durable frog, and to secure other advantages and results some of which will be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved railway frog, and in the combinations and arrangements of parts of the same, all substantially as will be hereinafter set forth and finally embodied in the clauses of the claim.

Referring to the accompanying drawings in which like letters indicate corresponding parts in each of the several views, Figure 1 is a plan of the improved frog. Fig. 2 is a side elevation of one of the rails of the same and Figs. 3 and 4 are sectional views taken on lines *x* and *y*, respectively of Fig. 1.

In said drawings, *a, a*, are the main line rails and *b* indicates one of a pair of branch, siding or crossing rails. *c, c, c* indicate the ties and *d, d, d* are bearing plates upon which certain of said rails are seated. *l* indicates the ordinary point of the frog and *f*, a guard rail wing which is a continuation of the siding rail. All of these parts are of the ordinary construction and they need no special description here.

g indicates a movable wing a continuation of the main track and which is curved and extends at the outer side of the siding rail as shown in Fig. 1.

Heretofore similar movable wings have

been employed in connection with the frog, but have been governed in their operations by interposed springs, the wing being of substantially the same length as the wing, *f*, and being at its extremity free to move laterally under the operation of the passing train. This device was objectionable because of its lack of firmness and security and power to resist the strain imposed upon it and, as a result, was soon reduced to a condition in which the train was allowed to become derailed.

In my improved construction the old extraneous or independent springs for holding the rails are dispensed with and the movable wing is firmly held at its opposite ends, and its own resilience alone is depended upon to secure the desired action. Of said movable wing *h, h'*, are the opposite ends, the latter, *h'*, abutting against or forming a part of the main line rail, *a*. The opposite end, *h*, is firmly held by suitable clamps or stays of any desired construction against lateral play, but is allowed a sufficient longitudinal movement in its bearings. The central portion, *i*, of the wing lies adjacent to the point, *l*, and serves to take the weight or pressure of the train from said point and thus prevent the latter from wearing down and producing a pounding effect in the passage of the train thereat. The said central portion is allowed a limited lateral play on the bearing plates *d, d*, of, say, one or two inches, to allow the flange of the car-wheel to pass between it and the point *l*. The said center parts are held down on the ties or bearing plates by inclined braces or keepers, *m*, which overlap the flange of the rail and serve as keepers which prevent vertical displacement and allow only limited lateral play, as shown in Figs. 3 and 4. The said braces are formed at an angle corresponding with the rail flange and admit of the proper lateral movement or play but prevent undue movement or displacement such as would tend to admit of a derailment. To co-operate with the said braces, I have arranged on the opposite side of the wing a similar brace, *u*, Fig. 4 which is bolted to the siding rail and projects over the flange of the wing to hold the rail down and prevent tilting.

Suitable spikes *n, n*, are employed to limit the lateral movement of the wing in the direction of the point.

To prevent accident in the event of a breakage of the wing, I have provided the same with a longitudinal reinforcement *p*, of steel. This is bolted on the inner side of the web of the rail as shown in Figs. 2 and 3 where it will more effectually resist a complete disarrangement of parts, should the resilient rail break, than it would if secured on the opposite concave side.

Having thus described the invention, what I claim as new is—

1. The improved frog herein described combining with the point and guard rail thereof, a movable wing at one end containing the main line rail and at the point being bent to lie outside of the siding rail, the opposite ends being held against lateral displacement and the outlying end being free to move longitudinally, the central part of said wing, adjacent to said point having a spring move-

ment to and from said point, substantially as set forth.

2. The improved frog herein described, combining with the point and guard rail thereof a resilient wing held at its opposite ends a longitudinal reinforcement *p*, bolted on the inner or convex side of the bent rail and braces or keepers, substantially as set forth.

3. The improved railway frog, combining with the point *l*, a resilient wing, at one end abutting against the main line rail and at the opposite end having longitudinal freedom of movement, and keepers allowing a limited freedom of lateral movement at the center but not at the ends, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of March, 1892.

JAMES NEAFIE.

Witnesses:

CHARLES H. PELL,
OSCAR A. MICHEL.