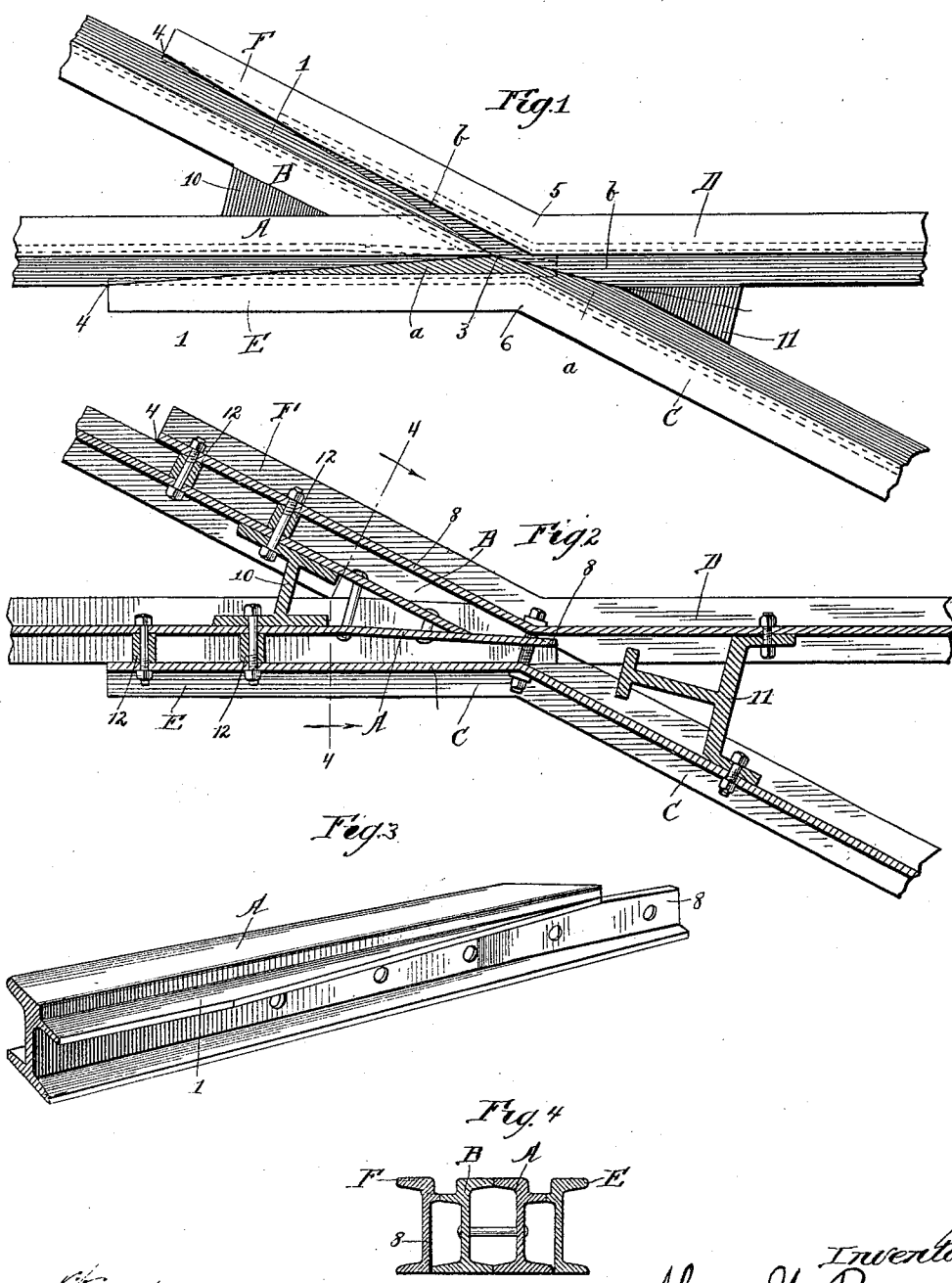


(No Model.)

A. W. PAIGE.
RAILWAY FROG.

No. 497,456.

Patented May 16, 1893.



Witnesses:
Wm. L. Fleming
J. M. Rheem

Inventor:
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UNITED STATES PATENT OFFICE.

ALONZO W. PAIGE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PAIGE IRON WORKS, OF SAME PLACE.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 497,456, dated May 16, 1893.

Application filed June 20, 1892. Serial No. 437,291. (No model.)

To all whom it may concern:

Be it known that I, ALONZO W. PAIGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification, reference being had to the accompanying drawings.

This invention is more particularly designed for street railways, and is built up of the ordinary girder rail now commonly used for street railways.

A frog containing the invention may be described in general terms as made of girder rails and having a point formed by fitting two of the rails together in any desired manner, and cutting the upper flanges (the trams) of the point rails at an angle from the point to a suitable distance back of it, the places of cutting forming a more obtuse angle with each other than do the point rails themselves. The frog also has the main track rails bent to form the wing rails of the frog and their trams cut diagonally so that they fit together and fit against the trams of the point rails. The outer lower flanges of the point rails are not cut, as much strength as possible being desirable; and to make room for these uncut flanges the lower inner flanges of the wing rails are cut away as shown in the drawings and hereinafter described. One of the point rails also has a projecting tongue on it formed either of its own web or in any other suitable manner, which tongue is bolted or riveted to the web of one of the main track rails.

In the accompanying drawings, which serve to illustrate the invention: Figure 1 is a top or plan view of a frog. Fig. 2 is a horizontal section of the same. Fig. 3 is a perspective view of one of the frog rails. Fig. 4 is a cross-section on the line 4—4 of Fig. 2.

In the figures A and B are the point rails. C and D are the main track rails.

E and F are the parts of the main track bent to form the guards.

The point of the frog may be formed in the manner shown, by cutting diagonally across the point rails, and then fitting one of the rails across the beveled end of the other, and bolting or riveting them together, as shown in Figs. 1, 2 and 4. The trams 1 of the point

rails, are then cut on diagonal planes extending from the point 3 of the frog to a suitable distance backward, say to the point 4 at which the wing rails terminate. This beveling is shown in Figs. 1 and 3. The treads of the point rails themselves meet to form a V which is more acute than that formed by the cutting planes. The track rails are bent at 5 and 6, as shown in Figs. 1 and 2 and their tram flanges *a, b* are cut upon the lines 3, 4 and 3—4. The trams of the two track rails fit together on the lines 3—4 and the wing or guard parts of the rails, cut as described, form an open V, into which the point rails exactly fit. The lower inner flanges of the wing portions of the rails are cut parallel with their webs 8, 9 as shown in Fig. 2 and thus accommodate the uncut flanges of the point rails A, B. The upper and lower flanges thus abut squarely against each other as shown in Fig. 4 and there are no corners or shoulders at their line of junction (see Figs. 1 and 2). Strength is thus preserved and fitting made easy. The longer of the two point rails A, has at its end a projecting tongue 8. This may be formed by bending its web or by any other suitable method. I prefer to bend the web as shown, for at the same time I bring the web directly under the point of the frog. The tongue 8 extends forward of the point across the open space between the rails, and a sufficient distance along the web of one of the track rails as C, to be bolted or riveted thereto, as shown in the dotted lines in Fig. 1. Suitable filling pieces 10, 11 and 12 are interposed between the point and wing rails and the parts are secured by bolts as shown.

I claim—

1. In a railway frog composed of girder rails, the combination with the point rails of the track rails bent to form the wing rails, and having their upper flanges or trams cut diagonally to fit together and form an open V, for the reception of the point rails, substantially as set forth.

2. In a railway frog composed of girder rails, the combination of the track rails bent to form the wing rails, and having their upper flanges or trams cut diagonally to fit together and form an open V, for the reception of the point rails, with the point rails having their upper

flanges or trams cut diagonally to bear against the upper flanges of said wing rails, substantially as set forth.

3. The combination, substantially as set forth, of the point rails having their trams cut diagonally to a V form and their lower flanges uncut; the track rails and the wing rails formed of the bent ends of the track rails, and having their trams cut diagonally to fit the trams of the point rails and their lower flanges cut parallel to the web to fit the lower flanges of the point rails.

4. The combination, substantially as set forth, of the point rails, having their trams

cut diagonally to a V form and their lower flanges uncut; the track rails and the wing rails formed of the bent ends of the track rails, and having their trams cut diagonally to fit the trams of the point rails, and their lower flanges cut parallel to the web to fit the lower flanges of the point rails, one of said point rails having a tongue 8 projecting into the open space between the main rails and secured to the web of one of said main rails.

ALONZO W. PAIGE.

Witnesses:

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