

No. 763,872.

PATENTED JUNE 28, 1904.

J. FORD.
RAILWAY FROG.
APPLICATION FILED APR. 30, 1904.

NO MODEL.

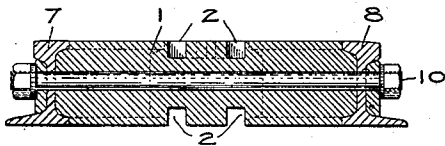
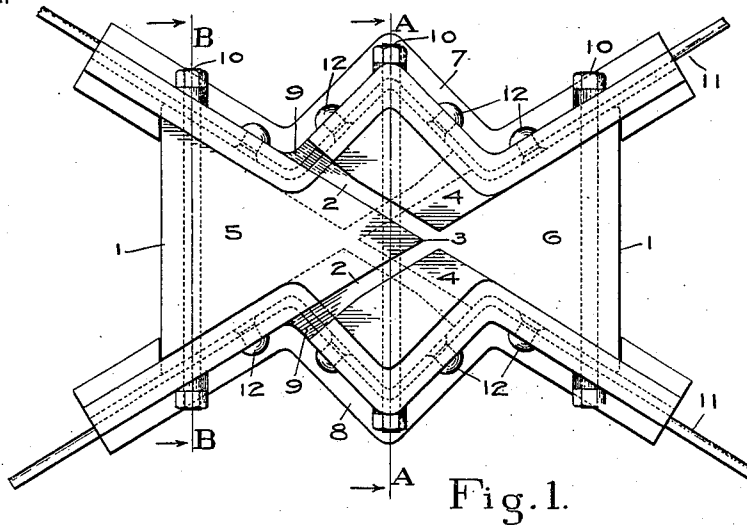


Fig. 2

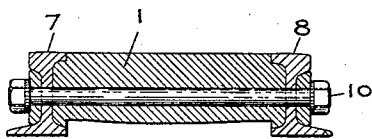


Fig. 3

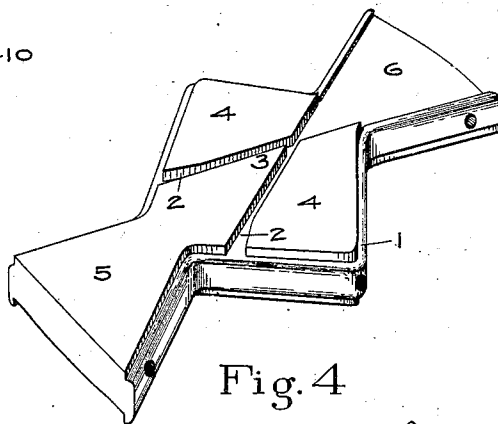


Fig. 4

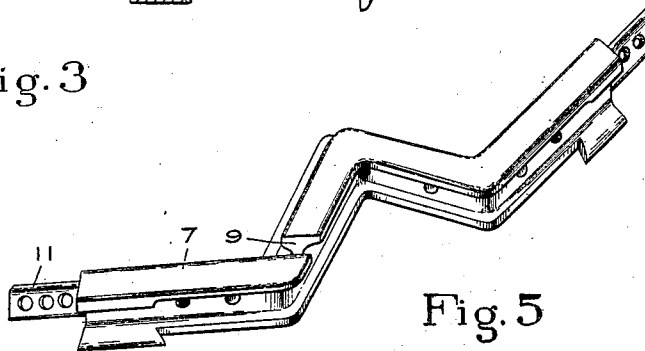


Fig. 5

WITNESSES,

J. P. Womlinger
Stone & Edelwe

INVENTOR.

James Ford
by Geo. E. Hackett
his ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES FORD, OF JOHNSTOWN, PENNSYLVANIA.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 763,872, dated June 28, 1904.

Application filed April 30, 1904. Serial No. 205,676. (No model.)

To all whom it may concern:

Be it known that I, JAMES FORD, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, 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.

My invention consists of a railway-frog which is provided at the throat with a hard metal section or wearing-piece; and certain of the objects of my invention are to improve the construction of railway-frogs by making the said wearing-piece reversible, so that when worn on one side it may be inverted and used again, and by arranging the frog-rails so that the intersecting main-track rails are made continuous and the customary wing-rails may be omitted without impairing the efficiency of the frog, as hereinafter fully described.

Referring to the annexed sheet of drawings, which form part of this specification, Figure 1 is a plan view of my improved railway-frog, showing the wearing-piece and the frog-rails bolted thereto. Figs. 2 and 3 are vertical sections on lines A A and B B, respectively, of Fig. 1 looking in the direction of the arrows. Fig. 4 is a perspective view of the reversible wearing-piece, and Fig. 5 is a perspective view of one of the frog-rails bent and shaped for the reception of the wearing-piece.

It is well known that in railway-frogs made of ordinary rail-sections the point and the edges of the frog-rails opposite the point wear away rapidly under traffic, and this in turn increases the wear and tear of the rolling-stock and becomes a source of danger. In order to prevent the rapid wear of these parts, I provide a casting or wearing-piece 1, of manganese steel or similar metal, provided with grooves 2 for the passage of the wheels, a frog-point 3, and cheeks or wings 4, which together form a substantially diamond-shaped body portion.

The body portion is arranged with substantially triangular extensions 5 and 6, which

project between the frog-rails 7 and 8 and form, respectively, the mouth and the heel of the frog. As shown in Figs. 3 and 4, the extension 5 is level with the top of the rails and the point of the frog, and the extension 6 is preferably depressed to the level of the bottom of the grooves, so as to provide a better clearance for the wheels.

In order to provide a stronger and more durable wearing-piece, I arrange the wheel-grooves unsymmetrically on the two sides thereof, so that their vertical projections intersect, as illustrated in Fig. 1, where the lower grooves are shown in dotted lines. This arrangement is by far preferable to that where the wheel-grooves on the opposite sides of the wearing-piece are symmetrically over each other, as this naturally weakens the casting and may cause premature rupture along the grooves with possible disastrous results.

The frog-rails 7 and 8 are bent to conform to the edges of the casting of wearing-piece 1, and in order to allow the passage of the wheel-flanges the said rails are notched at 9. The inner edge of the flange and a portion of the lower side of the head of each frog-rail is removed, as clearly shown in Figs. 2, 3, and 5, so that the frog-rails will fit tightly against the casting 1 in either of its positions in such a way that the top of the casting will be level with the surface of the rails.

The several elements are strongly secured by through-bolts 10, and they may be arranged with or without a bearing-plate fastened to the flanges of the frog-rails.

In order to connect the main-track rails to the frog-rails 7 and 8, the latter are provided with combined splice-bars and reinforcing-plates 11, which can be riveted thereto by countersunk rivets 12, as indicated in Fig. 1, and it is preferable to continue the splice-bars or plates along the whole length of the frog-rails, although this is not absolutely essential.

A feature of my improved frog is that the wing-rails are eliminated and the intersecting track-rails are made practically continuous by the arrangement of the frog-rails, besides which the structure is one which is simple, easily repaired, and not liable to get out

of order. Furthermore, the wearing-plate being reversible, the life of this important portion of the frog is thereby doubled.

I wish it understood that my invention may be applied to various styles of track structures with T-rails, center bearing-rails, tram-rails, or other forms, as may be readily understood, and it is also subject to various modifications of the particular forms and arrangements shown on the drawings and described herein as far as such modifications come within the scope of the claims.

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

1. In a railway-frog, a removable and reversible wearing-piece provided with wheel-flange grooves unsymmetrically arranged in its opposite faces so that their vertical projections intersect, thereby maintaining the strength of said wearing-piece.

2. In a railway-frog, a wearing-piece comprising a body portion of diamond shape, having wheel-flange grooves and substantially triangular integral extensions, and removably secured between the frog-rails.

3. In a railway-frog, a removable and reversible wearing-piece secured between continuous frog-rails and provided with wheel-flange grooves unsymmetrically arranged in the opposite faces of the said wearing-piece so that their vertical projections intersect.

4. In a railway-frog, a removable and reversible wearing-piece having wheel-flange grooves unsymmetrically arranged in its opposite faces so that their vertical projections intersect, rails bent to conform to the shape of said wearing-piece secured thereto and arranged to form a continuous connection between the intersecting track-rails.

5. In a railway-frog, a removable and reversible wearing-piece having wheel-flange grooves unsymmetrically arranged in its opposite faces so that their vertical projections intersect, rails bent and fitted to conform to the shape and outline of said wearing-piece

secured thereto and notched in line with the top grooves, and arranged to form a continuous connection between the intersecting track-rails.

6. In a railway-frog, a removable and reversible wearing-piece having wheel-flange grooves unsymmetrically arranged in its opposite faces so that their vertical projections intersect, frog-rails bent and fitted to conform to the shape and outline of said wearing-piece secured thereto by through-bolts and notched in line with the top grooves, and arranged to form a continuous connection between the intersecting track-rails, reinforcing and splice plates fastened to said frog-rails for securing the same to the said track-rails.

7. In a railway-frog, a removable and reversible wearing-piece comprising a body portion of diamond shape having wheel-flange grooves arranged in its opposite faces and provided with substantially triangular extensions, rails bent and fitted to conform to the shape and outline of said wearing-piece secured thereto and arranged to form a continuous connection between the intersecting track-rails.

8. In a railway-frog, a removable and reversible wearing-piece comprising a body portion of diamond shape having wheel-flange grooves arranged in its opposite faces so that their vertical projections intersect and provided with substantially triangular extensions, rails bent and fitted to conform to the shape and outline of said wearing-piece secured thereto and notched in line with the top grooves, and arranged to form a continuous connection between the intersecting track-rails.

In testimony whereof I hereto affix my signature in the presence of two witnesses.

JAMES FORD.

Witnesses:

J. R. WEMLINGER,
STONE EDELIN.