

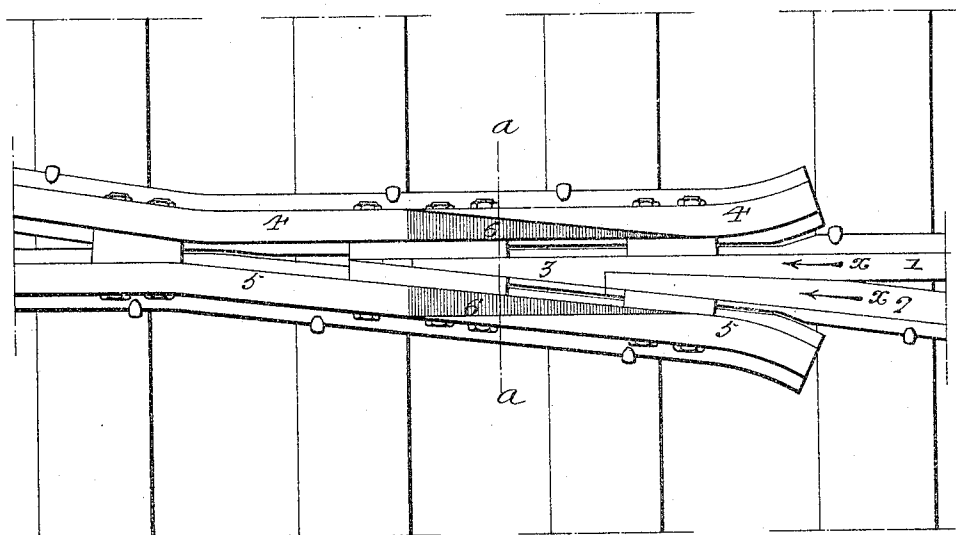
No. 793,555.

PATENTED JUNE 27, 1905.

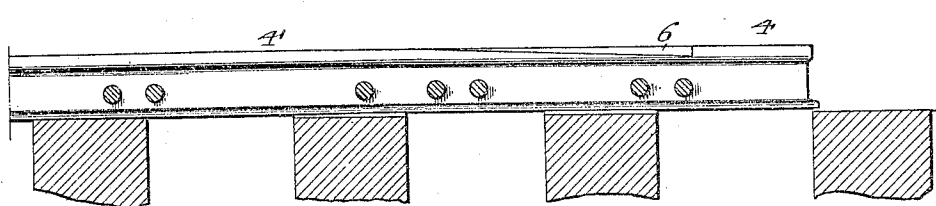
G. W. WHITEMAN.  
RAILWAY FROG.  
APPLICATION FILED APR. 29, 1905.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



Witnesses:-

Walter F. Pullinger

Augustus B. Capps

Inventor:

George W. Whiteman.

by his Attorneys:

Howen & Howen

No. 793,555.

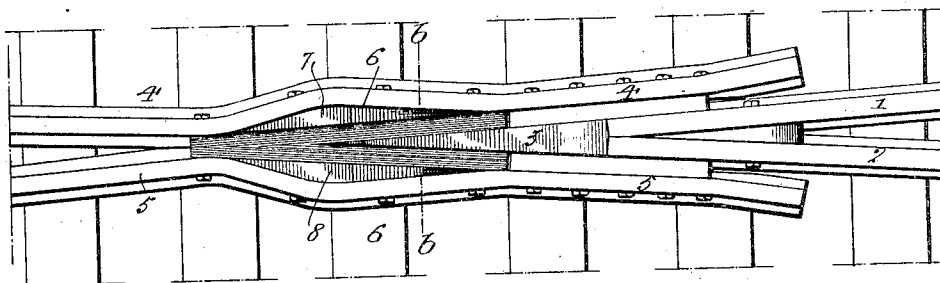
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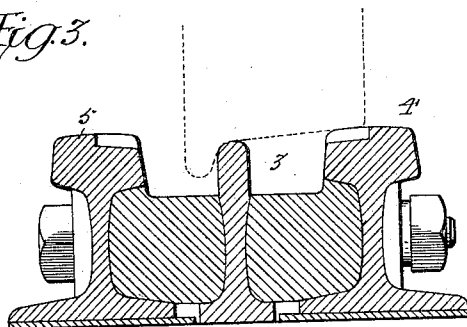
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2 SHEETS—SHEET 2.

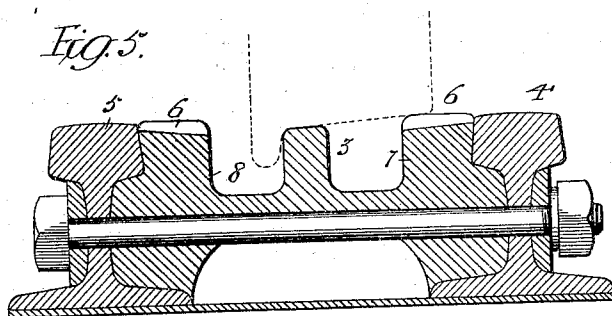
*Fig. 4.*



*Fig. 3.*



*Fig. 5.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

GEORGE W. WHITEMAN, OF PHILADELPHIA, PENNSYLVANIA.

## RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 793,555, dated June 27, 1905.

Application filed April 29, 1905. Serial No. 253,049.

*To all whom it may concern:*

Be it known that I, GEORGE W. WHITEMAN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
 5 Improvements in Railway-Frogs, of which the following is a specification.

My invention consists of a certain modification of or improvement in the railway-frog for which I obtained Letters Patent of the  
 10 United States No. 713,547, dated November 11, 1902, the object of my present invention being to prevent the humping of the wing-rails to the same extent as in the patented structure and to insure a better bearing of  
 15 the tread of the wheel upon the wing-rail when said wheel is traveling at and near the point of the frog.

In the accompanying drawings, Figure 1 is a plan view of an ordinary type of railway-frog to which my invention is applied. Fig.  
 20 2 is an inner side view of one of the guard-rails of the frog. Fig. 3 is a transverse section, on an enlarged scale, on the line *a a*, Fig. 1. Fig. 4 is a view similar to Fig. 1, but  
 25 illustrating another construction of frog to which my invention is applicable; and Fig. 5 is a transverse section, on an enlarged scale, on the line *b b*, Fig. 4.

In Fig. 1 of the drawings, 1 and 2 represent the converging rails of an ordinary frog structure, 3 the point of the same formed by  
 30 cutting away the tread and base-flanges of these rails, and 4 and 5 the wing-rails, these parts being secured together in proper relation to each other by means of transverse  
 35 bolts and interposed filling-blocks in the ordinary manner. If the top of the point 3 and the tops of the wing-rails 4 and 5, flanking the same, are in the same horizontal plane, the  
 40 wing-rails will not afford any support for a wheel approaching the point of the frog in the direction of the arrow *x*, owing to the fact that the treads of the wheels are beveled,  
 45 so that when the point of the frog supports the wheel at the throat or close to the flange, where the diameter of the tread is the greatest, the outer portion of the tread, where its  
 50 diameter is least, is free from contact with the wing-rail. Hence when the wheel leaves the point of the frog it drops until the outer

portion of its tread strikes the wing-rail, and there is consequently a pounding or hammering action, which is injurious both to the rails and rolling-stock. When, on the other hand, a  
 55 wheel is approaching the point of the frog in a direction opposite to that indicated by either of the arrows *x*, the outer portion of the tread of the wheel bears upon the tread of the wing-rail, and the throat of the wheel being below  
 60 the level of the top of the point the latter is compelled to lift the wheel when it strikes the same, with like result of pounding, hammering, and injury to frog-rails and rolling-stock. In order to overcome this objection,  
 65 I in the frog forming the subject of my previous patent raised the wing-rails 4 and 5 throughout those portions of the same which were adjacent to the point of the frog, the  
 70 elevation being to an extent commensurate with the bevel of the wheel-tread. This produced inclinations in each wing-rail, the inclination in advance of the point being in one  
 75 direction and the inclination in the rear of the point being in the opposite direction, thus resulting in a hump on the wing-rail, which  
 80 I now eliminate by maintaining said wing-rail in a horizontal position for some distance in advance of the rear end of the same and by cutting away the inner face of each wing-rail, as shown at 6, so as to produce on the  
 85 inner portion of the tread of each wing-rail a recess for the reception of the tread portion of a wheel traversing the point of the frog. By thus recessing the inner face of  
 90 each wing-rail I not only render unnecessary the reverse bending of the same, as in the previous frog, but I am enabled to impart to the upper face of the recess 6 of each wing-rail such a lateral inclination as will  
 95 enable it to accord accurately with the bevel of the tread of the wheel running upon the same, as shown in Fig. 3, thus providing a more extended bearing for the tread of the wheel than was provided by the top of the tread of the wing-rail in the patented structure.

In applying my invention to that class of frogs which have manganese-steel cheek-pieces 7 and 8 inserted in laterally-bent offsets in the wing-rails on each side of the  
 100 point the recesses 6 will be formed in these

cheek-pieces instead of in the rails themselves, as shown in Figs. 4 and 5.

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

- 5 A railway-frog having a point flanked by a wing whose upper surface, at and near the end of the point, is in a plane higher than the upper surface of the point, the difference in height being commensurate with the bevel of  
10 an ordinary locomotive or car wheel, said wing having formed in its inner side a recess for

the reception of the tread portion of a wheel traversing the point, substantially as specified.

In testimony whereof I have signed my name 15 to this specification in the presence of two subscribing witnesses.

GEORGE W. WHITEMAN.

Witnesses:

WM. BROWN, Jr.,

WM. E. SHUPE.