No. 872,473. PATENTED DEC. 3, 1907.

J. B. STRONG.

RAILROAD FROG.

APPLICATION FILED MAR. 18, 1907.

Fig. 1.

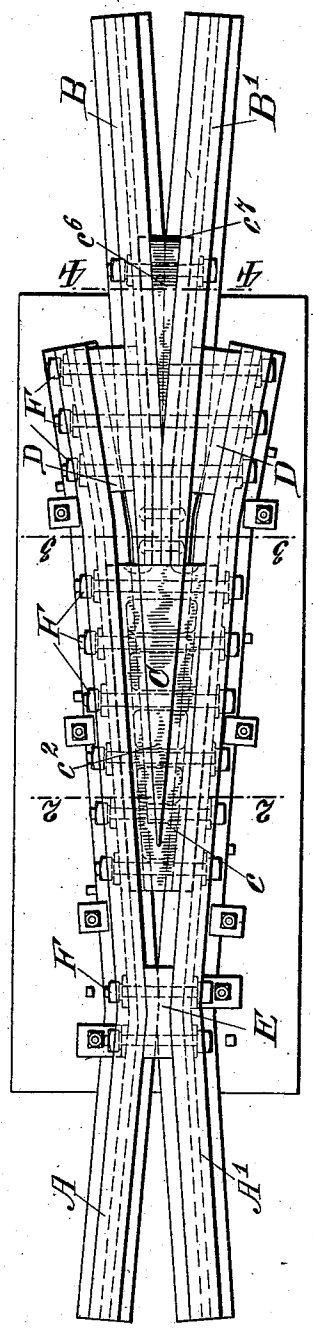


Fig. 4.

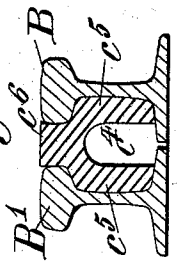


Fig. 3.

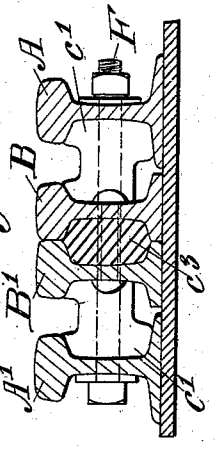
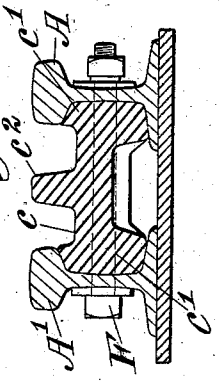


Fig. 2.



Witnesses:

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RAILROAD-FROG.

No. 872,473. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed March 18, 1907. Serial No. 362,828.

To all whom it may concern:

Be it known that I, JAMES BOORMAN STRONG, a citizen of the United States, and a resident of Hillburn, in the county of Rockland, in the State of New York, have invented certain new and useful Improvements in Railroad-Frogs, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

The object of my invention is to produce a strong, durable and compact railroad frog, made up of a few parts which may be readily renewed or repaired, and the invention consists in the new and novel features of construction, arrangement and combination of parts hereinafter described and claimed.

In the accompanying drawing,—Figure 1 represents a plan view of a railroad frog embodying my invention. Fig. 2 represents a section on the line 2, 2 of Fig. 1. Fig. 3 represents a section of the line 3, 3, of Fig. 1. Fig. 4 represents a section on the line 4, 4 of Fig. 1.

The wing rails A and A′ are of the usual shape and are detachably secured to the frog by any suitable means. Preferably these wing rails are of rolled manganese steel on account of the peculiar strength and toughness of this material. The main rails B and B′ are likewise detachably secured to the frog and are of rolled Bessemer steel or rolled manganese steel as desired.

The frog block C is of cast manganese steel and comprises a point or toe portion, a central or chock portion and a rear or heel portion. The point or toe portion is arched in cross section, and comprises a horizontal body c, formed integral with vertical wings or flanges c'. Said flanges conform to the contour of the wing rails and fit snugly between the bottoms of the heads and the bases of the wing rails. The point c^2 is formed integral with the body and extends backward until the rear or heel of said point is approximately the width of the main rails when same are abutted together. The wings or flanges c' are cut away flush with the rear line of the point section, so as to permit the main rails to be abutted against the point portion. The central or chock portion c^3 of the frog block is solid in section and corresponds in shape with and fits snugly within the recess formed by abutting together the heads and bases of the main rails. The chock thus formed holds the main rails in their proper position and provides a reinforcement therefor at the joint between the main rails and the point portion. The rear or heel portion c^4 of the frog block comprises that portion extended between the diverging main rails. Said portion is provided with the lateral flanges c^5 engaging between the heads and the bases of the main rails and resting upon the bases of the main rails. The heel portion is also provided with an upwardly extending flange or rib c^6, flush or approximately flush with the tread of the rails. Said rib or flange is beveled or inclined at the end of the frog block so as to form a heel riser c^7 and permit the wheels to pass onto the rail without jar or concussion.

Between the wing rails and the main rails, preferably near the end of the wing rails and at a considerable distance from the joint between the point portion and the main rails are arranged the filler blocks D. Said filler blocks may be of cast iron or other suitable material and are wedge-shaped in form. This arrangement tends to force the heads of the main rails together, and the webs of the main rails against the central or chock portion of the frog block. Preferably also a filler block E is provided at the throat of the frog between the wing rails. All of the parts are secured together by means of bolts F.

By this construction the frog block rests throughout its entire length upon the bases of the wing rails and of the main rails. The peculiar arched or bridge shape of the toe and heel portions of the frog block provides the necessary strength with a minimum of material and distributes the weight over the bases of the adjacent rails. The flange way is formed by the wing rails and the point portion of the frog block and since the lateral supporting flanges of the frog block are entirely beneath the heads of the rails all wear is taken by the wing rails and the point.

I claim as my invention,—

1. In a railroad frog the combination with the wing rails and the main rails, of a frog block provided with a point portion, a chock portion and a heel portion, said chock portion being inclosed between the heads and bases of the main rails.

2. In a railroad frog the combination with the wing rails and the main rails, of a frog block, provided with a point portion, a chock portion and a heel portion, said point and heel portions being arched in section and

supported solely by the bases of the wing rails and the main rails respectively.

3. In a railroad frog the combination with the wing rails and the main rails, of a frog block comprising a point portion, a chock portion and a heel portion, said point and heel portions being provided with lateral flanges engaging between the heads and bases of the wing rails and the main rails respectively, and the chock portion being inclosed between the heads and bases of the main rails.

4. In a railroad frog the combination with the wing rails and the main rails, of a frog block arranged between the wing rails and the main rails resting upon and supported its entire length by the bases of said wing rails and main rails respectively, and filler blocks arranged between the wing rails and the main rails at or near the ends of the wing rails and away from the joint between the main rails and the frog block to wedge the ends of the main rails together and against the frog block, substantially as described.

5. In a railroad frog, the combination with the wing rails and the main rails, of a frog block comprising a point portion, a chock portion and a heel portion, said point portion being arched in section and provided with lateral flanges extending the length of said point portion and engaging with and seating upon the bases of the wing rails, and said heel portion being arched in section and having lateral flanges engaging with and seating upon the bases of the main rails.

6. In a railroad frog, the combination with the wing rails and the main rails of a frog block comprising a point portion, a chock portion and a heel portion, said point portion being arched in section and provided with lateral flanges extending the full length of the point portion and seating upon the bases of the wing rails, said heel portion being arched in section and seating upon the bases of the main rails and having a heel riser formed integral therewith, and said chock portion being solid in section and seating upon the bases of the main rails, and means for securing said rails and frog block together.

7. In a railroad frog, a frog block comprising a point portion, a chock portion, and a heel portion, the said point and heel portions being arched in section and the chock portion being solid in section, substantially as described.

8. In a railroad frog, a frog block comprising a point portion, a chock portion and a heel portion, said point and heel portion being provided with lateral flanges formed to seat in the recess formed by the head and base portions of the adjacent rails and being arched in cross section, and said chock portion being shaped to seat in the recess formed by abutting the heads and bases of the main rails and being solid in cross section, substantially as described.

9. In a railroad frog, a frog block comprising a point portion, a chock portion and a heel portion, said point portion having a point and supporting flanges formed integral therewith and being arched in section, said heel portion having a heel-riser and supporting flanges formed integral therewith and being arched in section, and said chock portion being solid in section, substantially as described.

This specification signed and witnessed this 7th day of March, A. D., 1907.

JAMES BOORMAN STRONG.

Signed in the presence of—

FRED W. SNOW,

R. J. DAVIDSON.