

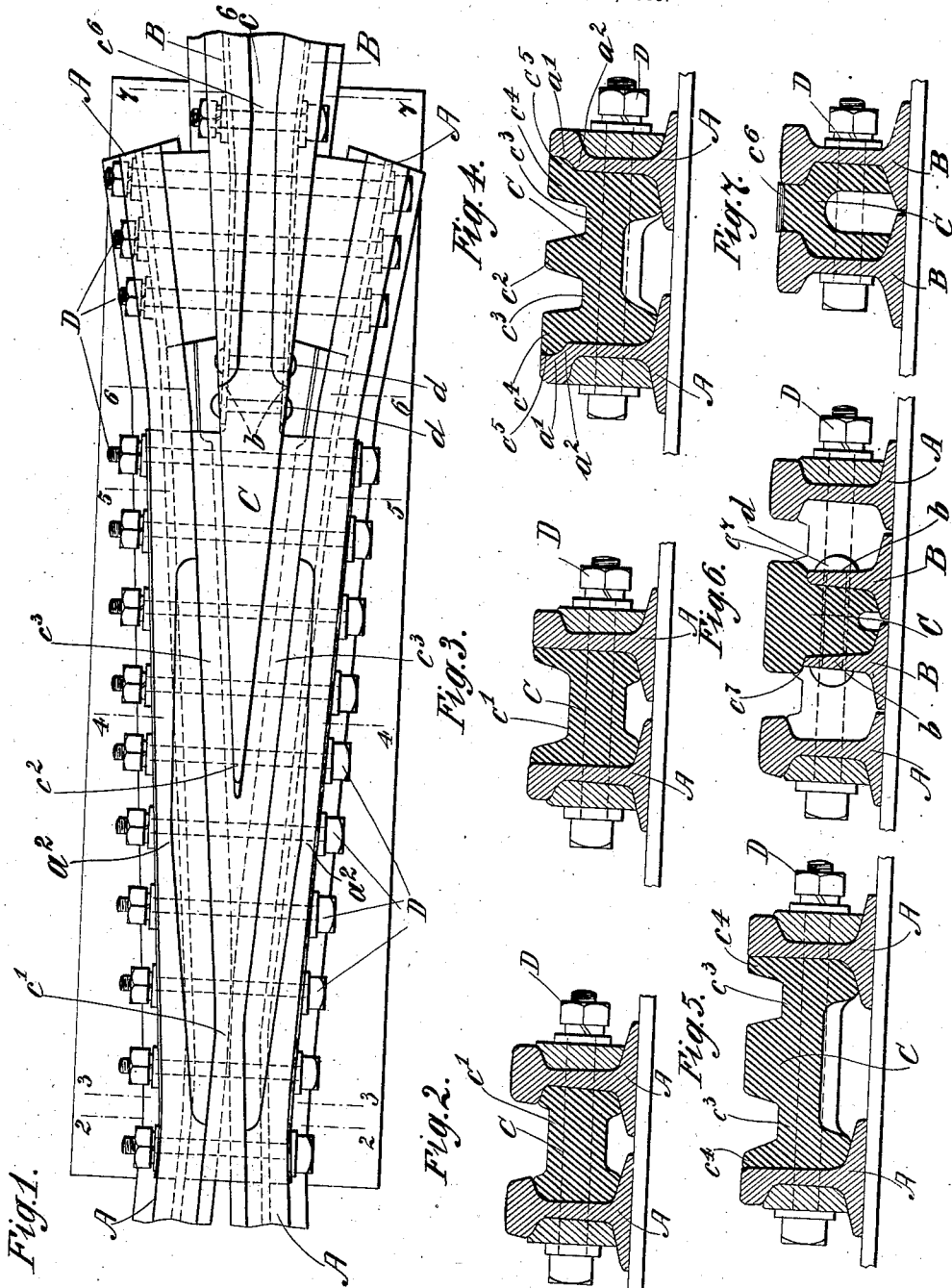
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PATENTED AUG. 11, 1908.

J. B. STRONG & G. E. HARING.

RAILWAY FROG.

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UNITED STATES PATENT OFFICE.

JAMES BOORMAN STRONG, OF HILLBURN, AND GEORGE ELLSWORTH HARING, OF SUFFERN, NEW YORK, ASSIGNORS TO RAMAPO IRON WORKS, OF HILLBURN, NEW YORK, A CORPORATION OF NEW YORK.

RAILWAY-FROG.

No. 895,698.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed April 7, 1908. Serial No. 425,644.

To all whom it may concern:

Be it known that we, JAMES BOORMAN STRONG and GEORGE ELLSWORTH HARING, citizens of the United States, and residents of Hillburn, in the county of Rockland and State of New York, and of Suffern, in the county of Rockland and State of New York, respectively, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

Our invention relates to improvements in railway frogs wherein the frog block is made of a hard material, such as manganese steel, which is especially adapted to withstand the severe wear to which such structures are subjected, and the invention consists in the new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings Figure 1 is a plan view of a railway frog embodying our invention. Figs. 2 to 7 represent cross-sections on the lines 2—2, 3—3, 4—4, 5—5, 6—6 and 7—7 respectively in Fig. 1.

The stock or wing rails A A and the main or point rails B B are of any desired section and material. The frog block C is preferably made of a material especially adapted to resist wear, such as manganese steel, and comprises a front or toe portion, a central or chock portion and a rear or heel portion. Throughout its entire length the frog block rests upon and is supported by the bases of the adjacent rails and is preferably arched in section to save material and to distribute the weight properly. The front or toe portion of the frog block seats in the space between the heads and the bases of the wing rails and extends forward, as at c' , through the throat of the frog in place of the usual filler or spacing block. The central portion has a point c^2 integral therewith and is provided with flange ways or grooves c^3 formed therein by the sides of the point and upwardly projecting flanges or inserts c^4 which are also integral with the frog block. Said inserts are provided with horizontally projecting flanges c^5 adapted to seat in recesses a' formed by cutting away a portion of the head of each wing rail. The tread portion of each wing rail is continuous and the recesses are formed entirely in the heads of the wing rails and above the webs and preferably extend beyond the plane of the webs

of the wing rails, as at a^2 so that the insert will form more than one half of the treads throughout the portions of the wing rails opposite the point c^2 . The webs of the wing rails are left intact and of uniform section throughout, so that the rigidity and strength of the rails is not impaired.

The rear portion of the frog block extends rearward a suitable distance between the main or point rails and is beveled at its extreme end to form a heel riser c^6 . At the junction with the frog block the heads of the point rails are cut away or beveled to fit to the frog block and near the ends of the rails the heads are cut entirely away and the webs b seat in recesses formed by outwardly extending flanges c^7 which are formed integral with the frog block and which occupy the places of the rail heads and provide treads for the wheels. Said flanges seat upon the webs of the point rails and provide means for preventing vertical movement thereof with relation to the frog block, in addition to bolts or rivets d . All the parts of the frog, including the wing rails, point rails, and the frog block are readily secured together by suitable means, such as large bolts D in addition to the bolts and rivets d and the overlapping parts.

By the construction above described, a frog is produced, which requires a minimum of material relative to its strength, rigidity and wearing qualities. The parts are easily assembled and in case of injury or wear the several parts can be easily removed and replaced.

It is obvious that various changes in the details can be made, without departing from the invention as herein shown and claimed.

We claim as our invention:

1. In a railway frog the combination with wing rails having their webs of uniform section and having the tread portion of their heads continuous and provided with recesses, of a frog block seating on the bases of the wing rails and provided with horizontal flanges engaging said recesses.

2. In a railway frog the combination with wing rails having the tread portion of their heads continuous and provided with recesses extending more than one half the width of the tread of said rails, of a frog block provided with horizontal flanges seating in said recesses.

3. In a railway frog the combination with wing rails having their webs of uniform section and having the tread portion of their heads continuous and provided with recesses, of a frog block provided with horizontal flanges seating in said recesses.
4. In a railway frog the combination with point rails having their heads partly removed, of a frog block secured to the point rails and provided with flanges occupying the places of such removed portions of the heads of the point rails.
5. In a railway frog the combination with point rails having their heads partly removed, of a frog block between said point rails provided with flanges occupying the place of such removed portion of the point rails and resting upon the webs of said point rails.
6. In a railway frog the combination with a frog block provided with recesses, of point rails having their heads removed and the webs engaging in said recesses.
7. In a railway frog the combination with a frog block provided with recesses formed by outwardly extending flanges integral with said frog block, of point rails having their heads removed and the webs engaging in said recesses.
8. In a railway frog the combination with wing rails and point rails of a frog block provided with flanges overlapping said wing rails and point rails respectively.
9. In a railway frog the combination with wing rails and point rails of a frog block having a toe portion which projects through the throat of the frog, a central portion overlapping the wing rails, and a rear portion overlapping the point rails.
10. In a railway frog, the combination with the wing and point rails of a frog block comprising a toe portion having a filler block formed integral therewith, a central portion with insets having outwardly extending flanges overlapping the wing rails and a rear portion having outwardly extending flanges overlapping the point rails.
11. In a railway frog, a rail having the tread portion of its head provided with a recess which extends beyond the plane of the web of the rail.
12. A railway rail having a web of uniform section and having the tread portion of its head provided with an irregular recess which extends in part beyond the plane of the web of the rail.

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Signed in the presence of—

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