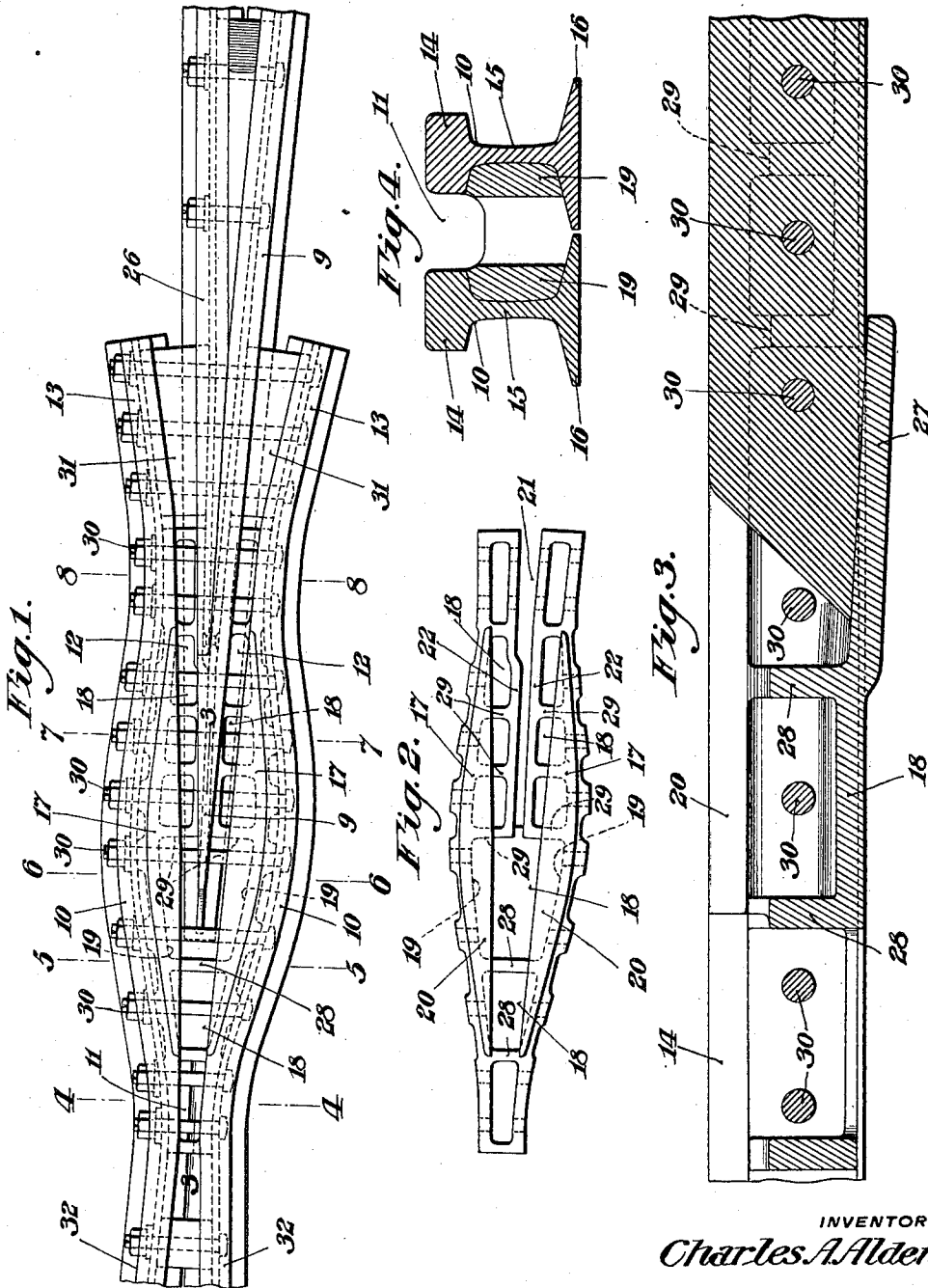


1,032,578.

Patented July 16, 1912.

2 SHEETS-SHEET 1.



WITNESSES

R. Schleicher.
G. P. Sharkey.

BY

A. V. [Signature]

ATTORNEY

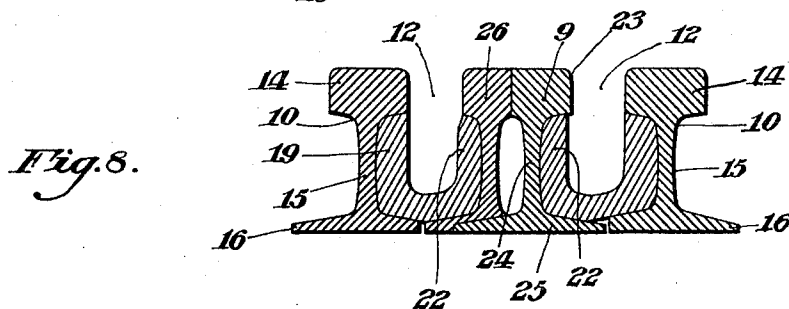
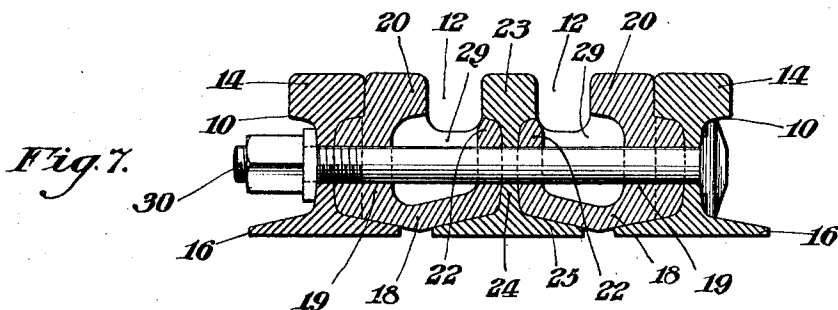
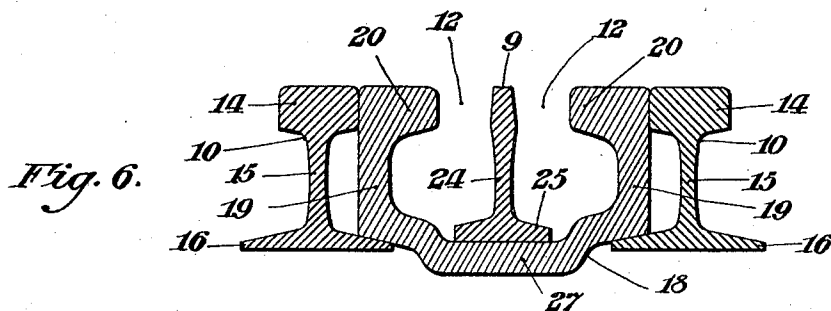
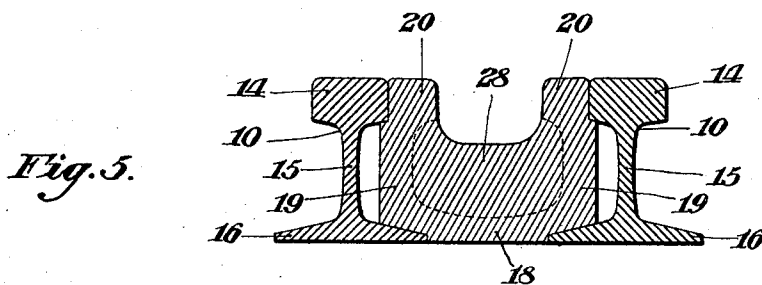
INVENTOR
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RAILROAD FROG.
APPLICATION FILED FEB. 8, 1912.

1,032,578.

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES A. ALDEN, OF STEELTON, PENNSYLVANIA.

RAILROAD-FROG.

1,032,578.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed February 8, 1912. Serial No. 676,227.

To all whom it may concern:

Be it known that I, CHARLES A. ALDEN, a citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Frogs, of which the following is a specification.

This invention relates to that class of railroad frogs wherein are employed lateral wing rails, a tapered point rail between the wing rails, tread portions formed of hard cast metal and arranged laterally of the point rail and forming lateral continuations of the heads of the wing rails and means for securing the rails and the cast tread portions together.

The object of my invention is to provide a frog of this class of novel construction, having provision whereby the lateral tread portions may be formed in a single casting of hard metal, such as manganese steel, whereby the point rail and the wing rails may be properly adapted to the single casting, whereby the metal may be distributed throughout the parts of the casting to produce a greater strength for a given quantity of metal than heretofore, whereby the point rail may rest upon a base portion of the casting, whereby the base portion of the casting may extend between and rest upon the bases of the wing rails and whereby the bottom of the point rail may be forced down and held in position upon the base portion of the casting.

With this object in view, the invention consists in the novel features of construction and the combinations of parts herein-after fully described and particularly claimed.

In the accompanying drawings, illustrating my invention: Figure 1, is a plan view of a railroad frog, showing one form of embodiment of my invention. Fig. 2, is a plan view of the hard metal casting forming the lateral tread portions of the frog, detached therefrom. Fig. 3, is a longitudinal section, on line 3—3 of Fig. 1. Figs. 4, 5, 6, 7 and 8 are transverse sections, on lines 4—4, 5—5, 6—6, 7—7 and 8—8, respectively, of Fig. 1.

Referring to the drawings, 9 designates the point rail, forming the frog point, and 10 the laterally disposed wing rails diverging from the frog throat 11. The usual flangeways 12 are formed between the wing

rails 10 and the point rail 9 for the reception and guidance of wheel flanges as the wheels pass over the frog; and the free ends of the wing rails 10 are bent and flared outwardly, at 13, as usual, to direct the wheel flanges to the flangeways 12 as the wheels pass over the frog in the direction toward the point end of the point rail 9.

Each wing rail 10 is formed of a bent railroad rail section comprising, as usual, a head 14, a vertical web 15 and a base 16. Each wing rail 10 is bent outwardly adjacent the frog point to form a recess for the reception of a hard metal wing rail engaging portion 17 fitted against the inner side of the wing rail and filling the recess and forming a lateral hard metal continuation of the head or tread portion 14 of the wing rail adjacent the frog point to receive the blows of car wheels passing over the frog. According to my invention, the wing rail engaging portions 17 are formed in a single casting of hard metal, preferably manganese steel, and are connected by a base 18 forming part of the casting and extending across the space between and having its side portions resting upon the bases of the wing rails 10. Each wing rail engaging portion 17 comprises a web 19, rising from one side of the base 18 and extending longitudinally of the frog, and a head or tread 20 formed on the top of the web 19 and extending laterally and inwardly therefrom. One end of the casting forming the parts 17 is bifurcated to form a slot 21 extending vertically through the casting and being open at the top and bottom thereof. The side walls of the slot 21 are formed by longitudinally-extending webs 22 rising from the base 18.

The point rail 9 is formed of a railroad rail section machined into the tapered form shown and comprising the head 23 the vertical web 24 and the base 25. Adjacent the rail 9 is a rail 26 fitted to the rail 9, as shown, in a manner to form the point portion of the frog and to diverge from the heel end thereof in the usual manner to form or be connected to the track rails extending from the frog. The point-forming ends of the rails 9 and 26 are inserted into the slot 21 formed in the bifurcated end of the casting, the point rail 9 extending entirely through the slot 21 and beyond the webs 22 and the rail 26 terminating after entering the slot 21 a slight distance. The

webs 22 are engaged with the sides of the web 24 of the point rail and engage the bottoms of the sides of the point rail head 23 while the side portions of the base 18 in the bifurcated end of the casting engage the top of the point rail base 25. The point forming end of the point rail 9 extends over and rests upon a longitudinally-inclined portion 27 of the base 18, the bottom of the base 25 of the point rail 9 being beveled or inclined to fit the inclined upper face of the part 27 of the base. The top of the base of the point rail extends along horizontal lines longitudinally of the rail 9 and so does the bottom of the bifurcated portion of the base 18. Thus the bottom faces of the parts of the base 18 engaged with the top of the point rail base extend through planes which form a wedge with the plane of the top of the inclined part 27 of the base 18, whereby when the point rail 9 is driven into the slot 21, the end portion of the base 25 of the point rail 9 will be forced into close contact with the inclined portion 27 of the base 18 to be supported thereby.

In order to properly brace the frog point and the wing rail engaging portions 17 against lateral strain, and to support the heads 20, I form webs 28 and 29 in the hard metal casting. The webs 28 extend transversely of the frog between and connect the longitudinal webs 19, and the webs 28 also connect the bottoms of the heads 20 and the base 18. The webs 29 extend transversely between and connect the longitudinal webs 19 and 22 on each side of the slot 21, and the webs 29 also extend vertically between and connect the bottoms of the heads 20 and the base 18.

The rails 9, 10 and 26 and the hard metal casting between the wing rails 10 are all firmly secured together by bolts 30 extending transversely through the same, as shown, flare blocks 31 being interposed between the flaring ends 13 of the wing rails and the adjacent portions of the rails 9 and 26.

As usual, the wing rails 10 diverge, at 32 from the frog throat 11 to form or be connected to the diverging track rails extending from the frog throat.

I claim:

1. In a railroad frog, a steel casting forming a base and a wing rail tread portion rising from said base, a tapered rail resting on said base and forming the frog point adjacent said tread portion, and means for securing said casting and said rail together.

2. In a railroad frog, two laterally disposed wing rails each having a base, a vertical web and a head; a steel casting interposed between said rails and forming a base resting on the bases of the wing rails and

forming wing rail engaging portions having tread portions forming continuations of the heads of the wing rails, a tapered rail resting on the base of the casting and forming the frog point, and means for securing said rails and said casting together.

3. In a railroad frog, two laterally disposed wing rails each having a base, a vertical web and a head; a steel casting interposed between said rails and forming a base and two wing rail engaging portions, the base of said casting resting on the bases of said rails, and each wing rail engaging portion comprising a web rising from the base of the casting and having a head formed on the top thereof and extending laterally therefrom and forming a lateral continuation of a head of a wing rail, a tapered rail resting on the base of the casting and forming the frog point, and means for securing said rails and said casting together.

4. In a railroad frog, two laterally disposed wing rails, a steel casting interposed between said rails and having a bifurcated end and forming a base and lateral tread portions engaging the wing rails, a tapered rail inserted into the bifurcated end of the casting and forming the frog point and resting on said base, and means for securing said rails and said casting together.

5. In a railroad frog, a steel casting forming a base having an inclined upper face and forming wing rail tread portions rising from said base, a tapered rail resting on said face and forming the frog point and having a laterally-extending part the upper face of which is arranged in a plane forming a wedge with the plane of the inclined face of the base, said casting having a part extending over and engaging the upper face of said laterally-extending part, and means for securing said casting and said rail together.

6. In a railroad frog, a steel casting having a bifurcated end and forming a base having an inclined upper face and forming wing rail tread portions rising from said base, a rail inserted into said bifurcated end and having a vertical web, a tapered head forming the frog point and a base extending laterally from said web and resting on said face, the base of said rail having an upper face engaging a part of the casting and arranged in a plane forming a wedge with the plane of said inclined face, and means for securing said casting and said rail together.

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

CHARLES A. ALDEN.

Witnesses:

CHARLES A. GROFF,
LOUISE PARK.