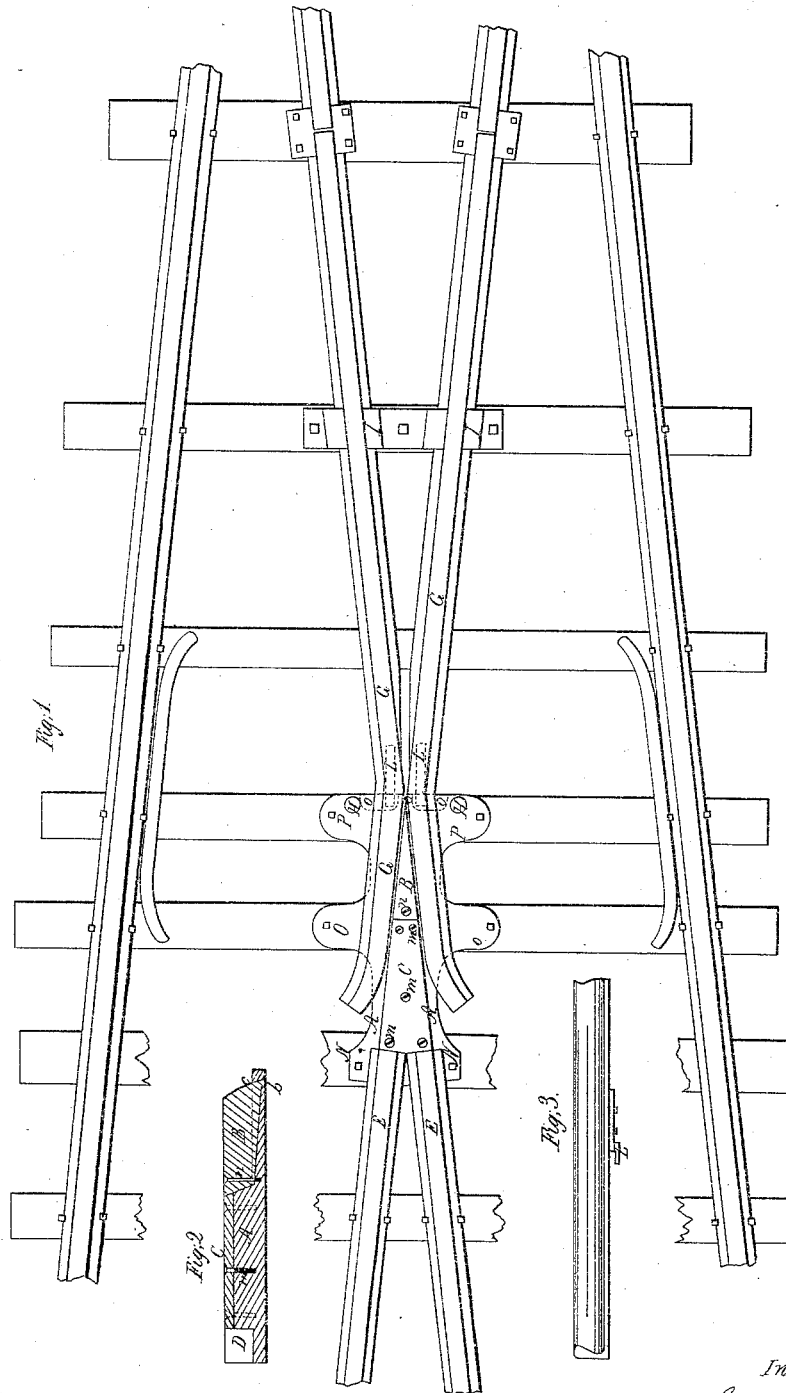


E. M. Caulkins.

Railroad Frog.

N^o 45,295.

Patented Nov. 29, 1864.



Witnesses.
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Eliza D. Dodge.

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UNITED STATES PATENT OFFICE.

E. M. CAULKINS, OF WORCESTER, ASSIGNOR TO HIMSELF AND JOHN J. POWERS, OF GRAFTON, MASSACHUSETTS.

IMPROVED RAILROAD-FROG.

Specification forming part of Letters Patent No. 45,295, dated November 29, 1864.

To all whom it may concern:

Be it known that I, E. M. CAULKINS, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Frogs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a top view of said railroad-frog, and of the rails attached thereto. Fig. 2 represents a longitudinal vertical section through said railroad-frog. Fig. 3 represents a side view of one of the spring-rails used in connection with the frog.

My invention relates to the combination of a cast-iron railroad-frog with two spring-rails in such a manner that a continuous rail is obtained on either side of the frog; also, to the construction of the cast-iron frog, by which the parts most subject to wear are made in separate pieces of steel or wrought-iron, and which can be replaced, when worn down, without renewing the entire frog.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the cast-iron frog. It is provided with flanges N O P, which are respectively secured to cross-ties. The top of the frog is provided with a steel plate, C, which is secured to it by means of countersunk screw-bolts *m*.

B represents the point of the frog. It is made of steel or wrought-iron. Its lower side is sunk into the casting of the frog, as represented in Fig. 2, and the end is provided with a projection, *b*, which fits into a suitable recess in the casting A. The part B, being thus sunk into the casting, is secure against lateral motion, and it is secured to the casting by means of the countersunk screw-bolt *n*.

The end D of the frog is provided with suitable recesses and chairs for the reception of the ends of the rails E.

G represents spring-rods. They are fastened to the chairs I at such a distance from the point *c* of the frog that they can freely spring from said point when the truck passes over them, the flanges of the wheels entering be-

tween the spring-rails and the point *c* of the frog, and when the truck has passed them they are again sprung inward and come in contact with the point B, thus presenting a complete rail on either side of the frog. The web of the spring-rails G is cut away at that part where they are in contact with the frog, so that the top of the rail can close firmly upon it.

The curved ends of the spring-rails G are supported by the base-plate of the frog and by the flanges O P, and they move thereon when they are sprung out. Their motion is controlled by the projections H, which prevent them from springing out farther than is necessary for the passage of the truck.

The rails G are provided at their lower sides with lips L, which enter suitable rabbets, *o*, in the base-plate of the frog. (Represented in dotted lines in Fig. 1.) These lips prevent the spring ends of the rails G from rising when the wheels of the truck pass over the other ends thereof. They also prevent the rails from being forced forward toward the frog.

The advantages of this construction are evident. The top plate, C, and point B, being most subject to wear, are made of steel or wrought-iron, and should they wear down they can easily be replaced without disturbing the spring-rails; or, if the spring-rails wear out, they in turn can be replaced or renewed without disturbing the frog A.

The arrangement of the double spring-rails presents a continuous rail on each side of the frog, without making any difficult or complicated constructions—a result which has not been obtained heretofore.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

The combination of the cast-iron frog A with two spring-rails, G, working independently of each other, and forming a continuous rail on each side of the frog, when constructed and operated substantially as and for the purposes described.

E. M. CAULKINS.

Witnesses:

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