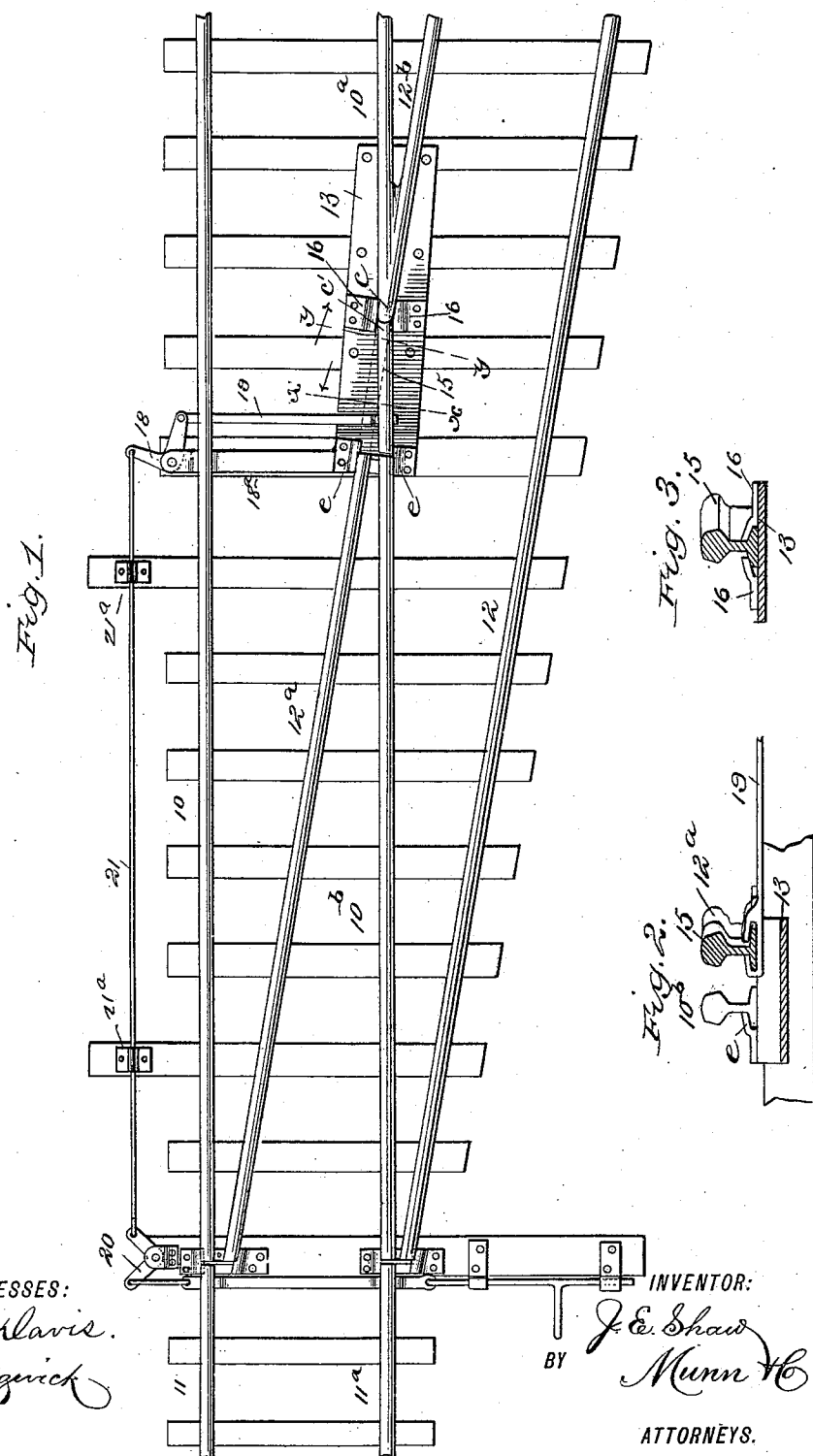


No Model.)

J. E. SHAW.
RAILWAY FROG.

No. 469,098.

Patented Feb. 16, 1892.



UNITED STATES PATENT OFFICE.

JAMES E. SHAW, OF COUNCIL GROVE, KANSAS.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 469,098, dated February 16, 1892.

Application filed September 17, 1891. Serial No. 405,958. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. SHAW, of Council Grove, in the county of Morris and State of Kansas, have invented a new and Improved Railway-Frog, of which the following is a full, clear, and exact description.

This invention relates to railway-frogs, the object of the invention being to provide a frog which may be thrown into line with the rails leading to a siding or with the rails of the main track; and to the end named the invention consists, essentially, of a plate, a frog held to move thereon, and a proper system of connections arranged between the frog and the switching-rails, all as will be hereinafter fully explained, and specifically pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of a switch in which my improved frog is utilized. Fig. 2 is an enlarged cross-sectional view on line *x x* of Fig. 1, and Fig. 3 is an enlarged cross-sectional view on line *y y* of Fig. 1.

In the drawings, 10, 10^a, and 10^b represent the rails of the main track, 11 and 11^a are the switching-rails, and 12, 12^a, and 12^b are the rails leading to the siding. The rails 10^a and 12^b are joined at *c*, and the ends of the rails rest upon a plate 13, which also serves as a support for the approaching ends of the rails 10^b and 12^a. The point *c* is convex, and against this convex point the concave end *c'* of a frog 15 abuts, the frog being held to place by chairs 16, which overlap the base of the frog, as shown in Fig. 3.

The frog 15 is connected to one arm of a bell-crank lever 18, pivoted at its angle to a transversely-ranging plate 18^a, secured in any

suitable manner to and beneath the rail 10, and connected at its inner end to the plate 13. The other arm of the bell-crank lever 18 is connected to a bell-crank lever 20 by a rod 21, stayed and guided in one or more supports 21^a, arranged at the sides of the track-rail 10 or upon extensions of the sleepers, as shown in Fig. 1.

The connections above described are such that if the switching-rails 11 and 11^a are thrown into alignment with the rails 10 and 10^b of the main track the frog 15 will also be thrown into alignment with the rails of the main track, as represented in full lines in Fig. 1; but if the switching-rails are thrown into alignment with the rails 12 and 12^a of the track leading to the siding, the frog will be thrown into alignment with the rails 12^a and 12^b, as indicated by dotted lines in Fig. 1.

The free end of the frog is supported by stops *e*, that are arranged in connection with the rails 12^a and 10^b.

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

The combination, with a plate 13, having an arm 18^a projecting outward beneath the outer rail 10, of rails 10^a and 12^b, which rest upon the plate and are formed with a convex end *c*, a frog formed with a concave end *c'*, chairs 16, which overlap the base of the frog, rails 12^a and 10^b, which rest upon the plate 13, stops arranged in connection with said rails, switching-rails, a bell-crank lever pivoted on the outer end of the arm 18^a and connected to the frog, and a second bell-crank lever connected with the first-named lever and with the switch-rails, as and for the purpose stated.

JAMES E. SHAW.

Witnesses:

C. L. KELLEY,
J. J. WEAKLEY.