(No Model.)

C. C. ANDRESS.

RAILROAD FROG.

No. 494,115. Patented Mar. 28, 1893.

Fig. 1.

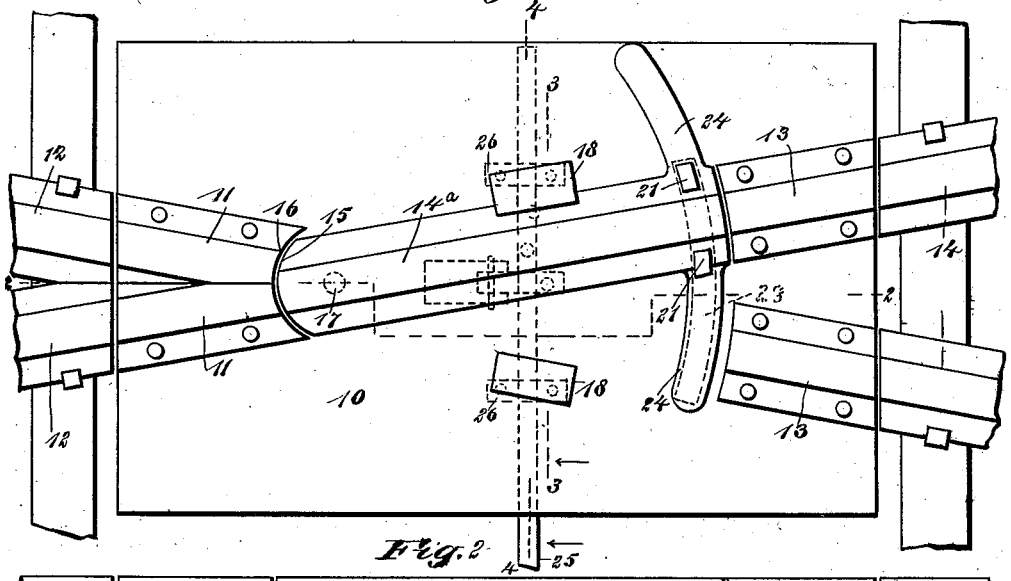


Fig. 2

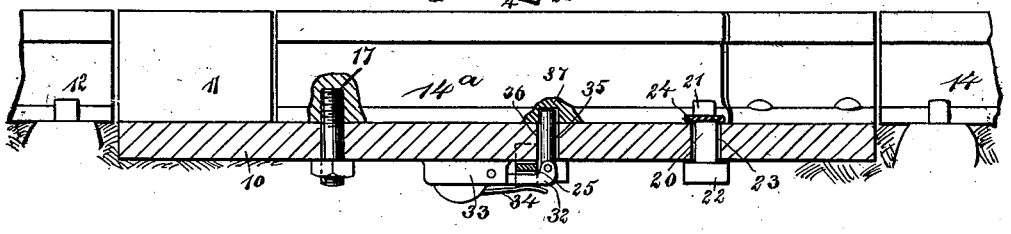


Fig. 3

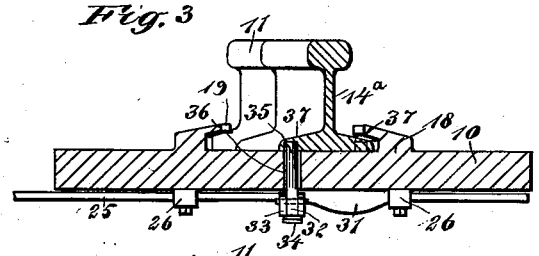
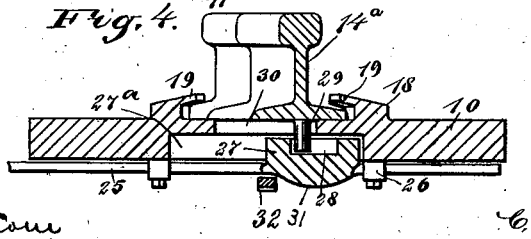


Fig. 4.



WITNESSES:

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RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 494,115, dated March 28, 1893.

Application filed July 9, 1892. Serial No. 439,444. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS C. ANDRESS, of New York city, in the county and State of New York, have invented a new and Improved Railroad-Frog, of which the following is a full, clear, and exact description.

My invention relates to improvements in railroad frogs, and the object of my invention is to produce an extremely simple and durable frog having a shifting rail which may be easily operated in the same way that a switch rail is operated, which may be shifted so as to provide a perfectly safe and smooth crossing, and which may be used when necessary for a switch rail.

To this end, my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a plan view of the frog and switch embodying my invention, the rail being shown for use as a frog. Fig. 2 is a longitudinal section on the line 2—2 in Fig. 1. Fig. 3 is a cross section on the line 3—3 in Fig. 1; and Fig. 4 is a cross section on the line 4—4 in Fig. 1.

The apparatus is provided with a base plate 10, at one end of which are the converging rails 11, which touch at their nearest ends and which are adapted to align with the converging track rails 12, and at the opposite end of the base plate are fixed the rails 13, which are adapted to align with the track rails 14, and also with the rails 11 and 12. The base plate has also pivoted thereon a shifting rail 14^a, which at one end is rounded, as shown at 15 in Fig. 1, and the rounded end is held to register with the concave end portions 16 of the adjacent rails 11. The rail 14^a is pivoted near the rails 11 on a bolt 17, which extends through the bed plate and well up into the rail, and it will be seen that the shifting rail may thus be moved so as to register with either of the rails 13, and to effect an easy crossing. The rail 14^a is held to move between lugs 18, which limit its movement, these being fixed to the base plate 10, and having overhanging inner edges 19 which project over the flanges of the rail and prevent the rail from rising. The rail 14^a has near its free end a depending lug 20, which is clamped to the flanges of the rail by the lugs 21, and which extends downward through a slot 23 in the base plate, and has a head 22 at its lower end which also prevents the rail and frog from shifting. The slot 23 is curved, as shown in Fig. 1, so as to permit the necessary movement of the rail, and the slot is covered by curved plates 24 which are secured to opposite sides of the rail, as shown in Fig. 1, and are sufficiently long to keep the slot entirely covered at all times. The movement of the shifting rail is effected by a switch rod 25, which is held transversely beneath the base plate and is held to slide in keepers 26, the rod having on its upper side a thickened portion 27, which slides in a recess 27^a of the base plate, and the thickened portion is also recessed on the top, as shown at 28 in Fig. 4, to receive a pin or lug 29, which is formed on the under side of the rail 14^a, and which enters the recess 28. It will be seen that the rod 25 is capable of a limited movement before the rail 14^a will be moved, and this movement may be regulated by the length of the recess 28, and the recess should be of such a length that its walls will strike the pin 29 and move the rail 14^a sufficiently to cause it to register with the rails 13. On the under side of the switch rod 25 is a convex cam 31, which is adapted to move over a swinging latch 32, which is pivoted in keepers 33 beneath the bed plate, and is normally pressed upward by a spring 34. To the free end of the latch is pivoted a pin 35, which extends upward through a hole 36 in the bed plate and registers with recesses 37 in the flanges of the rail 14^a. It will thus be seen that the pin 35 will lock the rail and hold it securely in place so that it cannot be accidentally displaced. The spring 34 should be sufficiently stiff to hold the pin in place so that it cannot be removed by the rattle and jar of passing trains. The switch rod 25 may be connected with an ordinary switch stand or any suitable lever, and it will be understood that the rail 14^a may be arranged for use as a switch rail instead of as a frog, as shown in the drawings.

The operation of the device is as follows: When the rail 14^a is to be shifted, the rod 25 is pushed to the right or left as the case may

be, and the first movement of the rod causes the cam 31 to move over and depress the latch 32, thus pulling down the pin 35 and releasing the rail 14^a. The continued movement of the switch rod causes the part 27 thereof to strike the pin 29 and move the rail 14^a into the required position, and the same movement causes the cam 31 to pass the latch 32, and the pin 35 springs back into the recess 37 of the opposite flange of the rail and the rail is thus held securely in place. It will be noticed that there will be no strain on the pins and bolts which hold the rails, as the pressure of the wheel flange on the rail 14^a jams the rail firmly against one of the lugs 18, which therefore sustains the side pressure.

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

A frog or switch, comprising a bed having fixed converging rails at the ends, a shifting rail held to swing between and register with the fixed rails, lugs secured to the bed and arranged to limit the movement of the shifting rail, a guide rod fixed to the shifting rail and held to move in a slot in the bed, cover plates secured to the rail and held to cover the slot, a switch rod operatively connected with the shifting rail, a spring-pressed locking pin held to move vertically in the bed and enter recesses in the shifting rail, and a cam mechanism operated by the switch rod and adapted to release the locking pin, substantially as described.

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