

(No Model.)

C. B. STEWART & T. L. WEDGE.
RAILWAY FROG.

No. 514,630.

Patented Feb. 13, 1894.

Fig. 1.

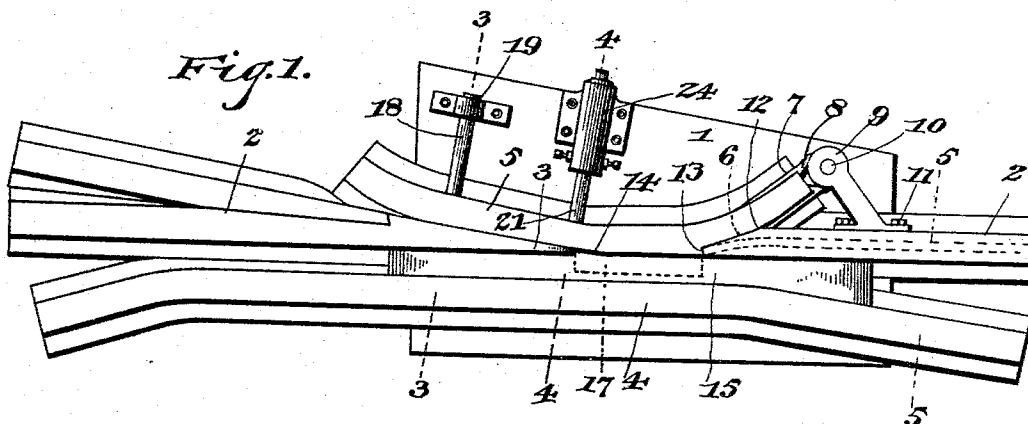


Fig. 2.

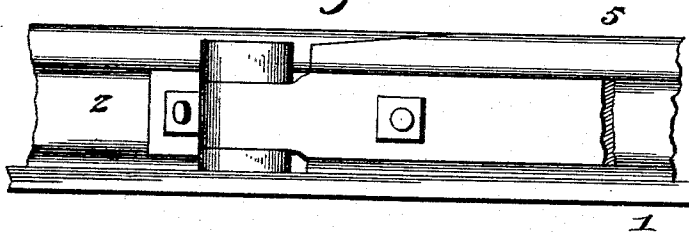


Fig. 6.

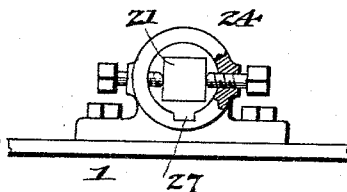


Fig. 3.

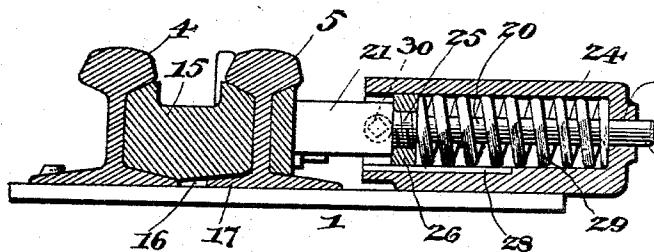
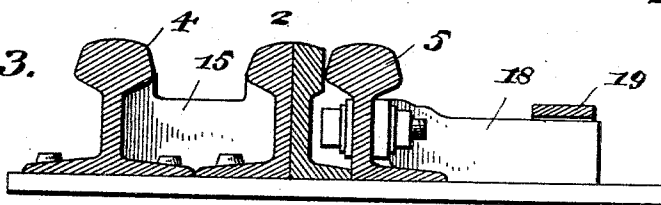
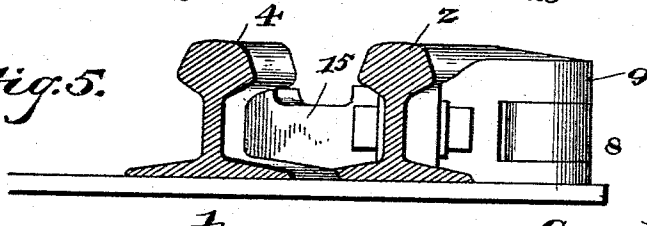


Fig. 4.

Fig. 5.



Inventors

Witnesses

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UNITED STATES PATENT OFFICE.

CORNELIUS B. STEWART AND THEODORE L. WEDGE, OF WILKINSBURG,
PENNSYLVANIA.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 514,630, dated February 13, 1894.

Application filed October 12, 1893. Serial No. 487,952. (No model.)

To all whom it may concern:

Be it known that we, CORNELIUS B. STEWART and THEODORE L. WEDGE, citizens of the United States, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Railway-Frog, of which the following is a specification.

Our invention relates to improvements in that class of railway frogs known as "spring-rail" frogs, and it has for its object to provide a simple, inexpensive and efficient construction whereby a short spring-rail may be employed; furthermore, to provide a full bearing for the tread of the wheel in passing over the frog point; furthermore, to provide means whereby the extent of deflection of the spring-rail is reduced to the width of the flange of a wheel; and furthermore, to provide means whereby the tension of the actuating spring may be adjusted with facility, and whereby the parts after adjustment may be locked to prevent accidental displacement.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawing: Figure 1 is a plan view of a portion of a railway track, showing a frog embodying our invention applied in the operative position. Fig. 2 is a side view of the same. Fig. 3 is a transverse section, on the line 3—3 of Fig. 1. Fig. 4 is a similar view on the line 4—4 of Fig. 1. Fig. 5 is a similar view on the line 5—5 of Fig. 1. Fig. 6 is an end view of the plunger and casing, to show the means for locking the former against displacement.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a base-plate, which is secured to the ties and extends under the parts comprising the frog.

2 represents the separated portions of the main rail; 3 the frog point; 4 a wing rail; and 5 the spring rail. The portion of the main rail which is opposite the frog point, we will for convenience term a "stub" rail, its terminal being bent inwardly and beveled on its

outer side to bring the web or neck 6 beneath the end of the tread portion. The spring rail is deflected outwardly at its extremities, and at that end adjacent to the stub rail is provided with a strap 7, having a terminal eye 8, which is connected to the hinge-jaws 9, by means of a vertical bolt 10. Said hinge-jaws are secured permanently to the outer side of the stub rail by means of bolts 11. The inner side of the spring rail, near its hinged end, is cut away, as shown at 12, to form a shoulder 13, which is equal in depth to the extremity of the tread of the stub rail, whereby, when the spring rail is in its operative position, as shown in Fig. 1, the inner edges of the treads of the spring rail and stub rail are in alignment. The spring rail is deflected, or inclined outwardly, at an intermediate point, shown at 14, which corresponds with the tip of the frog point; and the portion of the spring rail between this bend 14 and the shoulder 13, is straight and is adapted to lie directly in the path of travel of a wheel upon the main track. The manner of fitting the spring rail and filling the interval between the frog point and the stub rail provides an unbroken surface for the tread of a wheel. The portion of the inner flange of the spring rail between the shoulder 13 and the bend or offset 14, extends inwardly between the extremities of the frog point and stub rail, and the filling-block 15, which is disposed between the wing rail and the frog point and stub rail, is undercut as shown at 16, to receive this portion 17 of the flange, to prevent rocking and displacement of the spring rail.

The spring rail is provided, near its free end, with an outwardly-extending guide-tongue 18, which fits in a guide-eye 19, secured to the base-plate, and located approximately opposite the extremity of the frog point is a spring-actuated plunger 20, having an angular head 21, and a round stem 22, the latter being fitted in a guide-opening 23 in the outer end of the tubular casing 24. The stem 22, adjacent to the head, is threaded, as shown at 25, for the reception of a nut 26, which corresponds in shape with the bore of the casing and is provided with a key 27, which fits in a groove or way 28, whereby said nut is held from rotation. The spring 29 is arranged between the

nut and the outer end of the casing, and by forcing the nut inward holds the spring rail normally in the position shown in Fig. 1. To increase the tension of this actuating spring, the head of the plunger may be turned to move the nut toward the outer end of the casing, and after the desired adjustment has been reached, said plunger is locked against further movement by the lateral locking-screws 30, which terminate adjacent to opposite sides of the squared head.

It will be understood that in operation the flange of a wheel may pass between the spring rail and the frog point by a deflection of the former equal to the width of the flange, owing to the fact that the free end of the spring rail is arranged adjacent to said frog point, and therefore a slight movement only of the spring rail is required in passing either to or from the siding track; and when the wheels continue upon the main track a full bearing therefor is provided between the terminals of the frog members.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

1. The combination with a frog point, stub rail and adjacent wing rail, of a spring rail deflected and cut away to receive the extremity of the stub rail, and deflected opposite the extremity of the frog point, the portion of said spring rail between the extremities of the frog point and stub rail being straight and in alignment with the main track rail, substantially as specified.

2. The combination with a frog point and a wing rail, of a stub rail forming a part of the main track rail and having its extremity bent inwardly and beveled upon its outer side, whereby the web or neck is directly under the extremity of the tread, a hinged spring rail having its hinged end arranged adjacent to

the stub rail and deflected and cut away to form a shoulder which is equal in depth to the width of the tread of the stub rail, and means to actuate said spring rail, substantially as specified.

3. The combination with a frog point, a stub rail terminating adjacent to said frog point, and a wing rail, of a filling-block disposed between the extremities of the frog point and stub rail, a spring rail pivoted by intermediate connections to the stub rail and provided between the extremities of the frog point and stub rail with a flange to engage a cavity or under-cut portion in the filling-block, and means to actuate the spring rail, substantially as specified.

4. The combination with a frog point, stub rail and wing rail, of a pivotal spring rail arranged to fill the interval between the frog point and stub rail, and means for actuating the spring rail consisting of a casing, a plunger fitting axially in said casing, a nut threaded upon the stem of the plunger and provided with a key which fits in a guide or way in the casing, a spring arranged between said nut and the outer or closed end of the casing, and lateral locking-screws to engage opposite sides of the squared head of the plunger, substantially as specified.

5. The combination with a frog point, and a stub-rail forming a part of a main rail, said point and stub-rail being spaced apart at their extremities, of a spring-rail deflected at its extremities to lie on the outside of the frog point and stub-rail and lie at an intermediate point between the extremities of the frog point and stub-rail and in alignment with the main-track rail, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CORNELIUS B. STEWART.
THEODORE L. WEDGE.

Witnesses:

JOHN O'NEILL,
JOHN W. FRESHWATER.