(No Model.) 2 Sheets—Sheet 1.

H. ELLIOT.

SPRING RAIL FROG.

No. 563,027. Patented June 30, 1896.

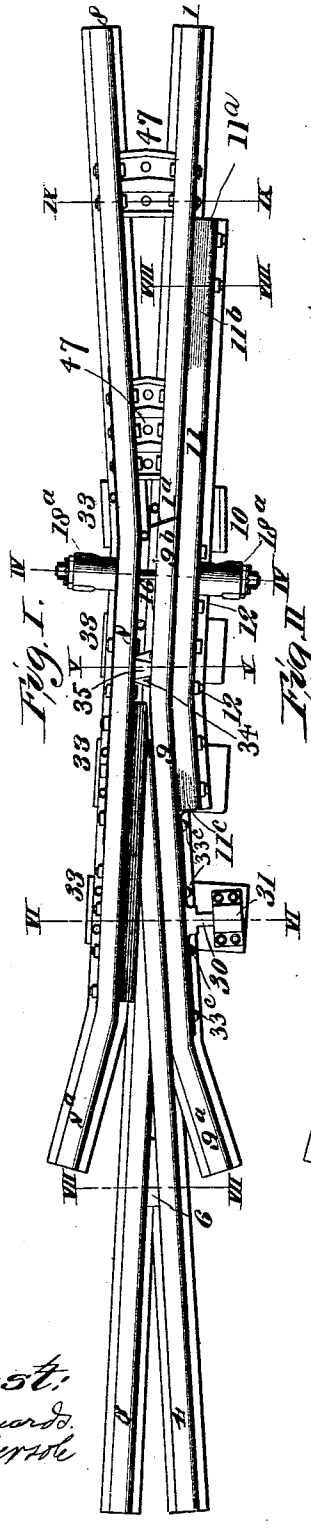

Fig. I.

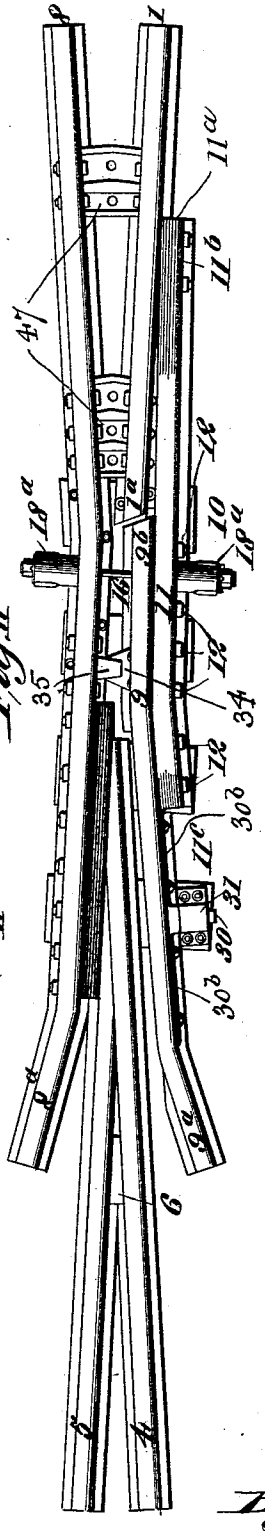

Fig. II

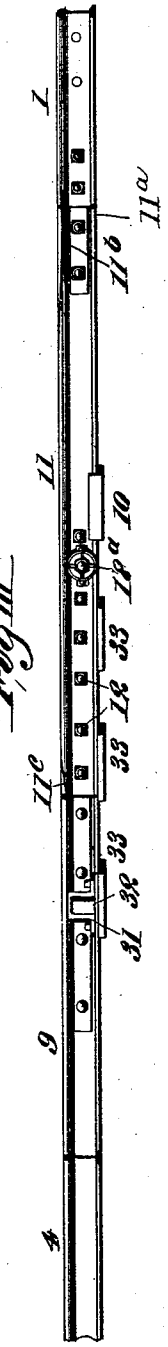

Fig. III

Attest:
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ANDREW B GRAHAM PHOTO-LITHO. WASHINGTON, D.C.

(No Model.) 2 Sheets—Sheet 2.

H. ELLIOT.

SPRING RAIL FROG.

No. 563,027. Patented June 30, 1896.

Fig. IV.

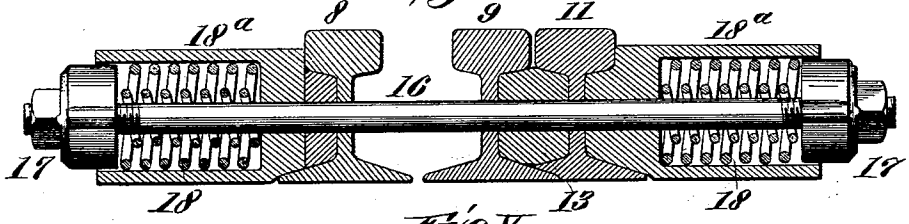


Fig. V.

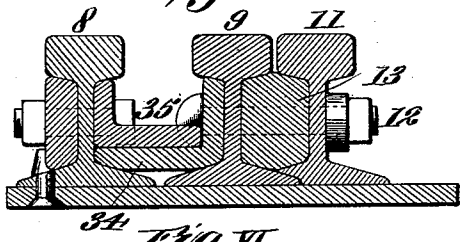


Fig. VI.

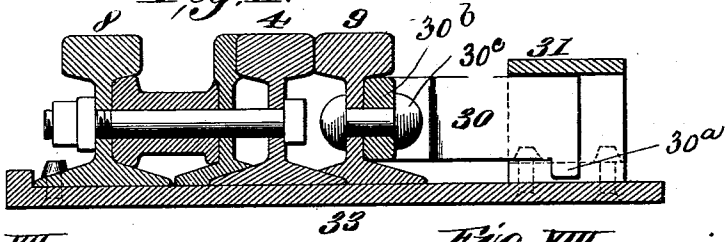


Fig. VII.

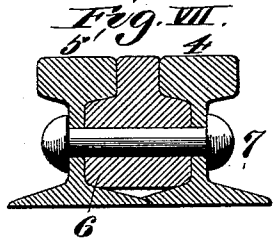


Fig. VIII.

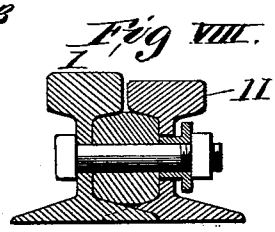
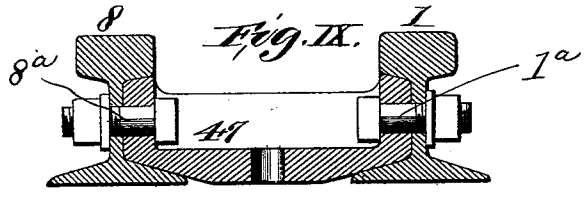


Fig. IX.



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UNITED STATES PATENT OFFICE.

HENRY ELLIOT, OF ST. LOUIS, MISSOURI.

SPRING-RAIL FROG.

SPECIFICATION forming part of Letters Patent No. 563,027, dated June 30, 1896.

Application filed April 20, 1894. Serial No. 508,265. (No model.)

To all whom it may concern:

Be it known that I, HENRY ELLIOT, a citizen of the United States, and a resident of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Spring-Rail Frogs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention relates to certain improvements in the frog shown and described in my Patent No. 474,726, issued May 10, 1892; and my present invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

Figure I is a top or plan view with the movable rail in normal position. Fig. II is a similar view with the movable rail in its open position. Fig. III is a side elevation. Figs. IV to IX, inclusive, are transverse sections taken, respectively, on lines IV IV, V V, VI VI, VII VII, VIII VIII, and IX IX, Fig. I.

Referring to the drawings, 1 represents a track-rail, and it may be considered as the main-track rail.

4 5 represent the two point-rails which form the frog-point. They are firmly secured together, and between them is a distance-block 6, the two points and the block being secured together by bolts or rivets 7, as shown in Fig. VII.

8 is the side-track rail, which ends in a guard-rail 8^a.

9 is a movable rail, which, in its normal position, as seen in Fig. I, lies against the frog-point, the base of the rail being cut away sufficiently to allow the rail to take this position. The movable rail ends in a guard-rail 9^a. It is capable of sufficient transverse movement—say about two inches—to allow a wheel-flange to pass between it and the point-rail 4.

Its outward movement is limited by stop 10, that is adapted to bear against the web or base of the rail 11 as desired.

11 represents a reinforcing-rail, parallel, in a part of its length, with the rail 9, and firmly attached to it by bolts 12, running through the webs of the rails and through filling pieces or blocks 13, (see Fig. V,) extending from web to web of the rails.

16 is a bolt passing loosely through the webs of the rails 8, 9, and 11, and through the filling-piece 13, (see Figs. I, II, and IV,) and carrying at the ends jam-nuts 17, resting against springs 18, inserted in casings 18^a. The purpose of the spring-bolt 17 is to draw the movable rail to the frog-point, and to retain it in such position, except when forced outward by the flange of the wheel passing between the rail and the point. The end 1^a of the main-track rail and the end 9^b of the movable rail are made of a like bevel, so as to fit accurately together and form, practically, a continuous rail when the movable rail 9 is in the normal position seen in Fig. I, thus supplying a continuous bearing for the tread of the car-wheel running on the main-track rail 1, between such rail and the frog-point. The end 11^a of the reinforcing-rail 11 is so connected to the rail 1 as to allow the required movement of the rail 9 to and from the frog-point, and this end of the rail 11 is beveled down, as shown at 11^b, to prevent danger of the tread of the wheel striking the end of the rail, and, in like manner, the other end of the rail 11 is beveled down, as shown at 11^c, for the same purpose.

The parts thus far described are of the same construction and have the same operation as the corresponding parts identified by the same numerals in my patent referred to.

My present invention relates to a new means of guiding the rail 9 and keeping it from tilting, and to a new means of connecting the rails 1 and 8 together, which dispenses with the use of the plate 2 of my patent, and which means prevents the creeping of the rails, as does the plate 2 of the patent. The means for guiding the rail 9 and for keeping it from tilting consists of a finger or projection 30, having a pendent lug 30^a overhanging a supporting-plate 33 and secured to the rail by means of a plate 30^b and bolts 30^c. The finger or projection fits in a keeper or strap 31, secured to one of the supporting-plates 33. This is well illustrated in Figs. I, II, and VI.

As the rail is moved back and forth, the finger or arm 30 works in the keeper 31, thus guiding the rail and keeping it from tilting, and, as an additional means for keeping the rail from tilting, I secure on the inside thereof a bracket 34, which fits under a bracket 35, secured to the rail 8, as shown in Figs. I, II, and V, the bracket 34 sliding beneath the

bracket 35 as the rail is moved from the position shown in Fig. I to the position shown in Fig. II and back again. This forms a very cheap and effective means of keeping the movable rail 9 in a vertical position.

The means for keeping the rail 1 from creeping, and to which the other part of my invention relates, consists of brackets or angle-pieces 47, (see Figs. I, II, and IX,) which are bolted or riveted to the webs of the rails 8 and 1, by single fastenings 1^a 8^a, as clearly shown in Fig. IX, and which are so formed as to fit the web of each rail, as well as to fit under the head of each rail, and to seat between and flush with the rails and against the base of each rail. There are preferably a number of these brackets or angle-pieces, as shown in Figs. I and II, and when applied they effectually prevent the possibility of the rail 1 creeping or moving endwise as a train passes over, and they dispense with the use of the plate 2 of the patent referred to.

I claim as my invention—

A spring-rail frog comprising the frog-point, the track-rail 1, side-track rail 8, rigidly connected to the frog-point, a bracket 47 having flanges and located between the webs of said rails, and the independent bolts by which the flanges of the brackets are secured to the webs of the respective rails so that the rails are tied together and held from creeping or moving longitudinally by the bracket; substantially as described.

HENRY ELLIOT.

In presence of—
A. M. EBERSOLE,
E. S. KNIGHT.