(No Model.)

F. C. WEIR.

Railroad Frog.

No. 241,259. Patented May 10, 1881.

Fig. 1

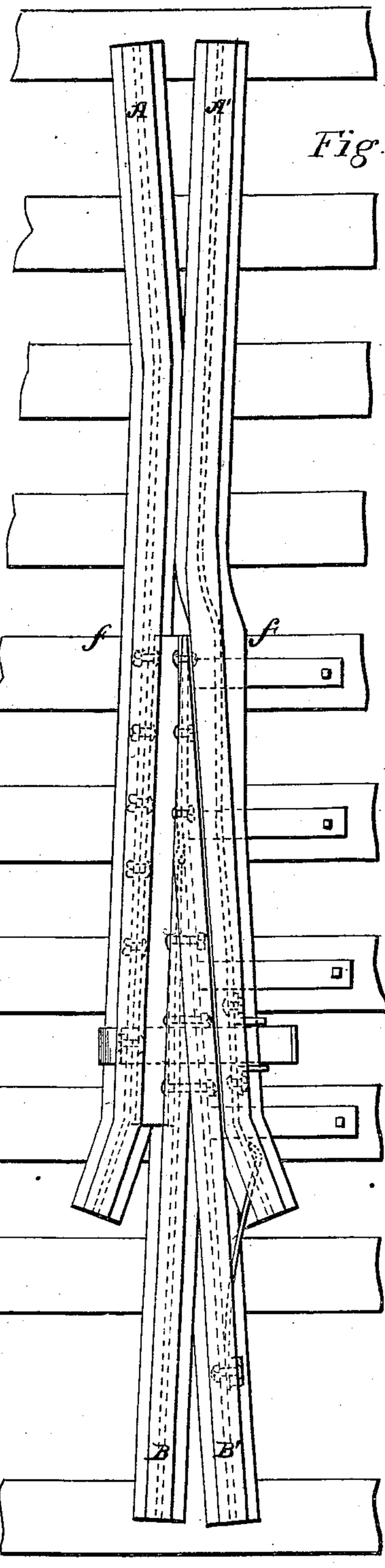

Fig. 3.

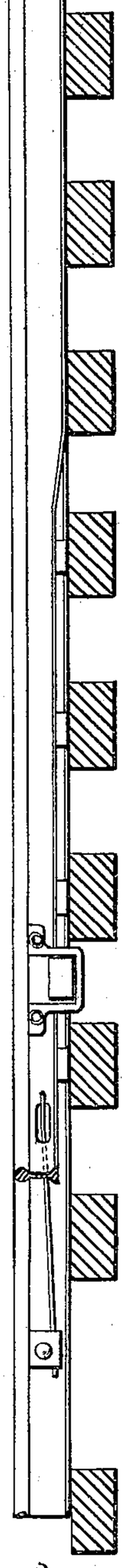

Fig. 2.

Attest

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UNITED STATES PATENT OFFICE.

FREDRIC C. WEIR, OF CINCINNATI, OHIO.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 241,259, dated May 10, 1881.

Application filed December 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, FREDRIC C. WEIR, a citizen of the United States, of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Railroad-Frogs, of which the following is a specification.

My invention relates to that class of frogs known as and termed "spring" or "movable wing-rail" frogs, made by the bending of the overlapping ends of the rails themselves. In this class of frogs either one or both of the wing-rails are made movable, and the point-rails are secured together through bolts or rivets passing through the two point-rails, and when one wing-rail is made stationary proper separating-pieces or channel-irons are used to connect the point-rails with the stationary rail.

My invention first consists in so forming the movable wing-rail, by reducing its height from just beyond the point of the frog to its rear extremity, where it fits up against the point-rails, that its reduction in height shall be sufficient to permit of the under side of the base of the rail sliding on the plates provided for it, so that the inside half of the base or flange will pass over the top of the outside half of the flange of its abutting point-rail up to the web of the same, and thus avoid the shearing off of the flanges of the movable wing-rails, as in most cases is the custom, and at the same time permit of the use of wing-rails of the uniform height of remaining rails of which the frog is constructed.

My invention consists, secondly, in so curving or offsetting the base and web of the wing-rails, and at the same time keeping the head of the rail in a straight line, as to permit of the head being brought into close contact with the point of the frog without cutting off any portion of the inside flanges of the wing-rails, all of which are of great importance, for by preserving the full strength laterally danger from fracture of the movable wing-rails is, in a great measure obviated.

In the accompanying drawings, Figure 1 is a plan of a frog embodying my improvements, and showing one movable wing-rail (with the necessary sliding plates) closed against the point; but both wing-rails may be made movable. Fig. 2 is a cross-section on line *f f*, showing the formation of the moving wing-rail, and also the flange or base of the main point-rail, as well as the plate on which the movable wing-rail is supported and carried on up to its position. Fig. 3 is a longitudinal section, showing to what distance it is necessary to reduce the height of the rail, also the bearing-plates for the bottom of the rail to rest on and slide into position.

A A′ are the outer or wing rails of the frog.

B B′ are the two rails comprising the point.

In place of cutting away the flange of the wing-rail A close up to the web, as is sometimes the practice, I retain it by reducing the rail in height by means of proper dies sufficient to permit of the under side of the base of the rail passing over the top of the flange of the adjoining point-rail, when resting on the sliding plates provided for it, as shown in Figs. 1 and 2, and also in curving the base and web of the rail, as shown in Figs. 1 and 2, so as to permit of the head being brought practically in close contact with the point of the frog, as shown.

It is obvious that this might be partially accomplished by using the movable wing-rails the whole length of a lesser height than those used in the remaining portions of the frog; but such practice would involve the use of a step-chair and an offset fish-plate, which would be objectionable, and therefore the use of a section of rail of the uniform height of the rest of the frog is preferable.

Having described my invention, what I claim is—

1. A railroad-frog constructed with movable or spring wing-rails, the movable rails of which have that portion abutting the point-rails so reduced in height as to permit of the under side of the base passing over the top of the flange of the adjoining point-rail, substantially as specified.

2. A railroad-frog constructed with movable wing-rails, having the web and base of the movable rail curved or offset, so as to permit of the head of said rail being brought into line and close contact with the point of the frog, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDRIC C. WEIR.

Witnesses:

F. J. P. BRACKETT,

FRANCIS E. MORRIS.