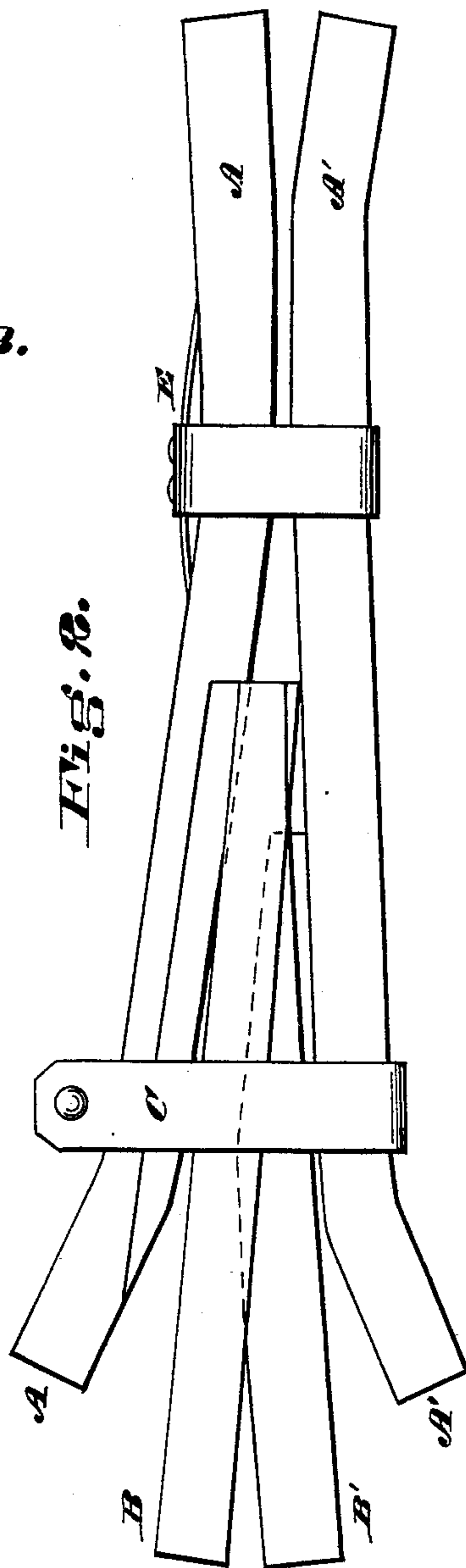
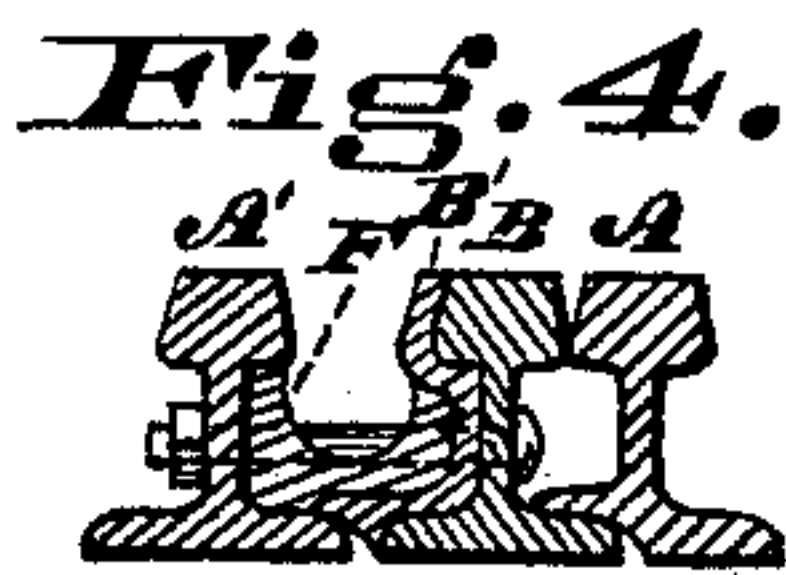
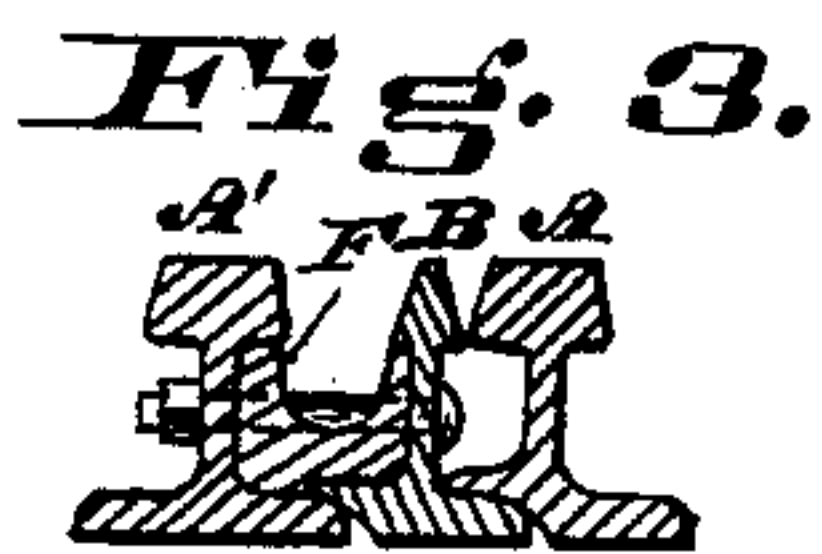
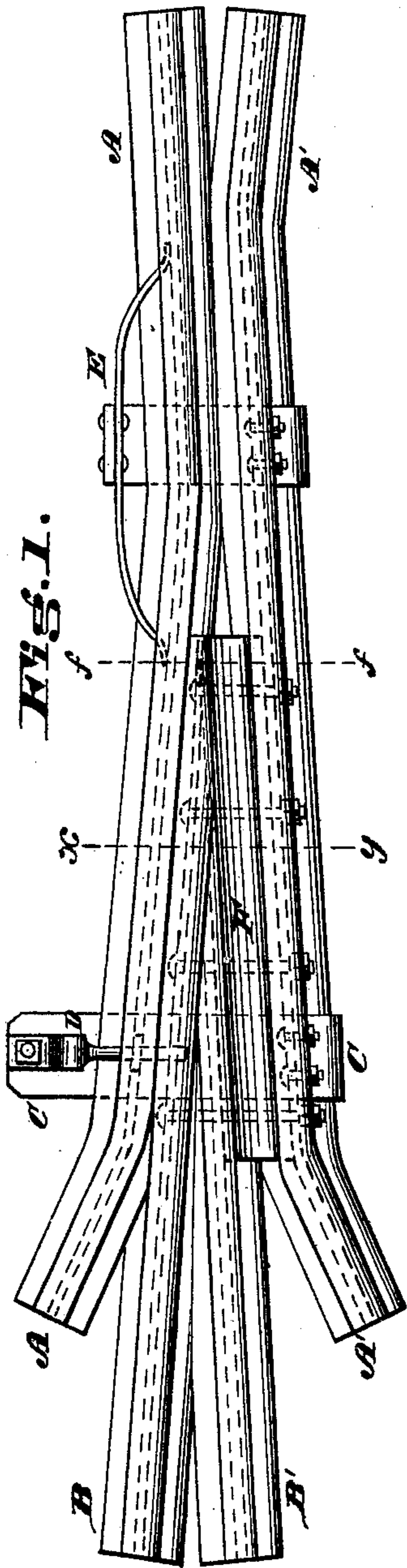


F. C. WEIR.
Railroad-Frog.

No. 220,264.

Patented Oct. 7, 1879.



Attest
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UNITED STATES PATENT OFFICE.

FREDERIC C. WEIR, OF CINCINNATI, OHIO.

IMPROVEMENT IN RAILROAD-FROGS.

Specification forming part of Letters Patent No. **220,264**, dated October 7, 1879; application filed July 21, 1879.

To all whom it may concern:

Be it known that I, FREDERIC C. WEIR, 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" 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-iron are used to connect the point-rails with the stationary rail.

My invention consists, first, in so forming the movable or spring wing-rails that when shut up against the point the side of the flange or base of the rail nearest to the flange or base of the point-rail shall rest upon and gain a bearing on the top of the flange or base of the point-rail, and thus give to the movable or spring rail a full-width base-bearing, part of which shall be on top of the flange of the point-rail, and the remainder on the cross-ties, and thus avoid the cutting off of the inside base or flanges of the movable wing-rails close up to the web of said rails, and which reduces their strength fully one-third, as well as reducing their bearing-surface a like proportion, and which is now and has heretofore been the custom in the manufacture of spring or movable rail-frogs, and has been the cause of numerous accidents; second, in so leaving the full width of flanges on the outside of the two rails forming the point, and so forming them that all the overlapping portion of the flange that is usually cut off shall rest on the top of the flange of the stationary wing-rails, and thereby give additional base-bearing for the point-rails; third, in combining the use of a channel or U-shaped iron for separating and holding the stationary wing-rail firm in its position at its proper distance from the point-rails.

In the accompanying drawings, Figure 1 is a plan of a frog embodying my improvements

and showing one movable rail closed against the point; but both wing-rails may be made movable. Fig. 2 is a plan of the under side of the frog, showing the offset or reduction in the height of the rail on the flange side, and one side of the flange forming part of the base of the wing or movable rail is swaged upward and inclined upward to the proper angle, and a sufficient distance, so as to allow it to rest on the top of the flange or base of the point-rail on the adjacent side thereof when the wing or movable rail is in its closed position. Fig. 3 is a cross section of the same on line *ff*, showing the formation of the movable wing-rail, and also the flange or base of the main point-rail as well as the channel-iron F. Fig. 4 is a cross-section of the same on line X Y, showing the formation of the flange of the movable wing-rail, as well as the overlapping flange of the short point-rail and the channel-iron F.

A A' are the outer or wing rails of the frog, and B B' are the two rails composing the point. In place of cutting away the flange of the wing-rail A close up to the web, as has usually been the practice heretofore, I retain it by swaging upward the inside portion of the flange sufficient to permit of its gaining a bearing on the top of the flange of the main point-rail B, as shown in Figs. 2 and 3. This bearing for the inside edge of the flange of the movable wing-rail on the top of the flange of the main point-rail might be partially gained by planing off the bottom side of the base of the wing-rails to the angle of the top side of the flange of the main point-rail; but I prefer the swaging process and preserve the full strength of the flange.

With the movable or spring rails I use the slide-plate C, so formed as to fit over the flange and up to the web of the stationary wing-rail, and there it is secured by bolt passing through the web and slide-plate. On this slide-plate C, I attach a guide-bar, D, which is bolted or riveted to the slide-plate at one end, the other end passing through the movable wing-rail and into the main point-rail.

I also use the spring E, which may be of

any of the usual forms of construction, either spiral or elliptic; but it is not required when making both wing-rails movable.

Having described my invention, what I claim is—

1. A railroad-frog with movable or spring wing-rail, the inner flange of the base of which is swaged or inclined upward so as to rest and find a bearing upon the top of the adjacent flange of the point-rail, substantially as specified.

2. A railroad-frog composed substantially of

a stationary wing-rail united to the point or diverging rail by means of a channel or U-shaped iron, or separating pieces, and the other wing-rail being movable and provided with an inclined flange resting upon the top of the adjacent flange of the point-rail, substantially as specified.

FREDERIC C. WEIR.

Witnesses:

GEO. COOK,
K. SANFORD.