

(No Model.)

2 Sheets—Sheet 1.

G. C. LUCAS.
CLAMP RAILWAY FROG.

No. 567,401.

Patented Sept. 8, 1896.

Fig. 1.

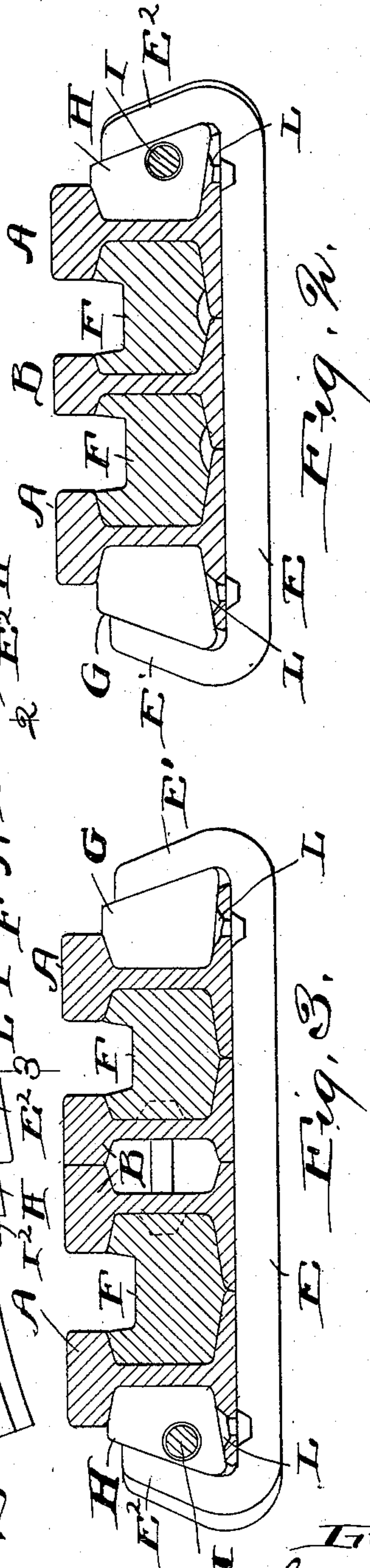
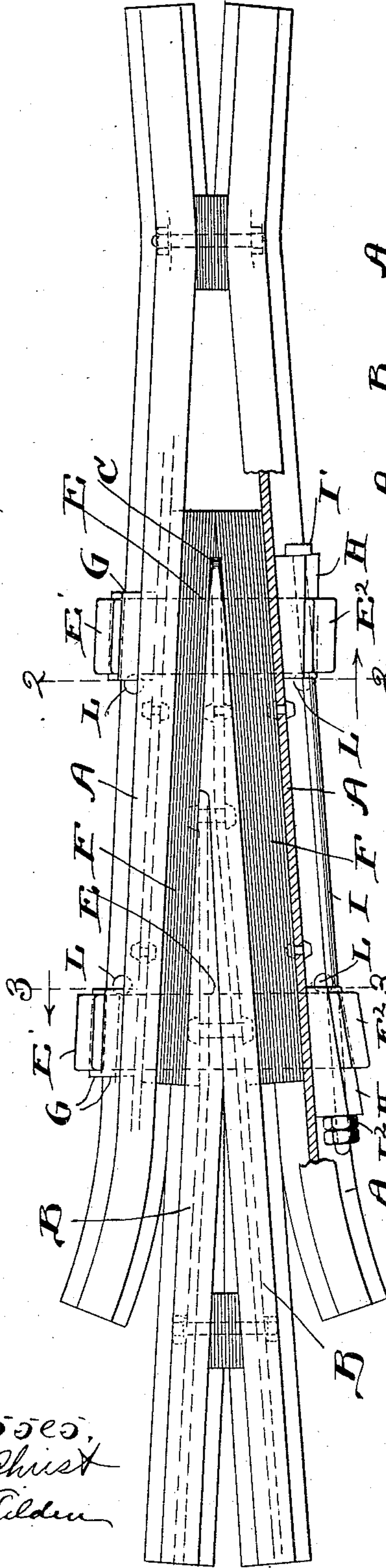


Fig. 2.

Fig. 3.

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(No Model.)

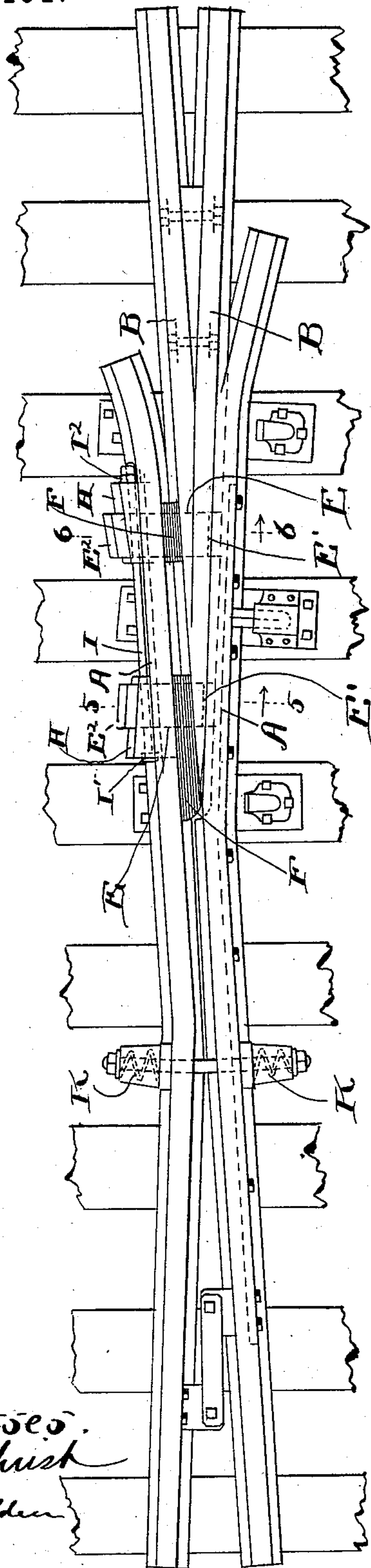
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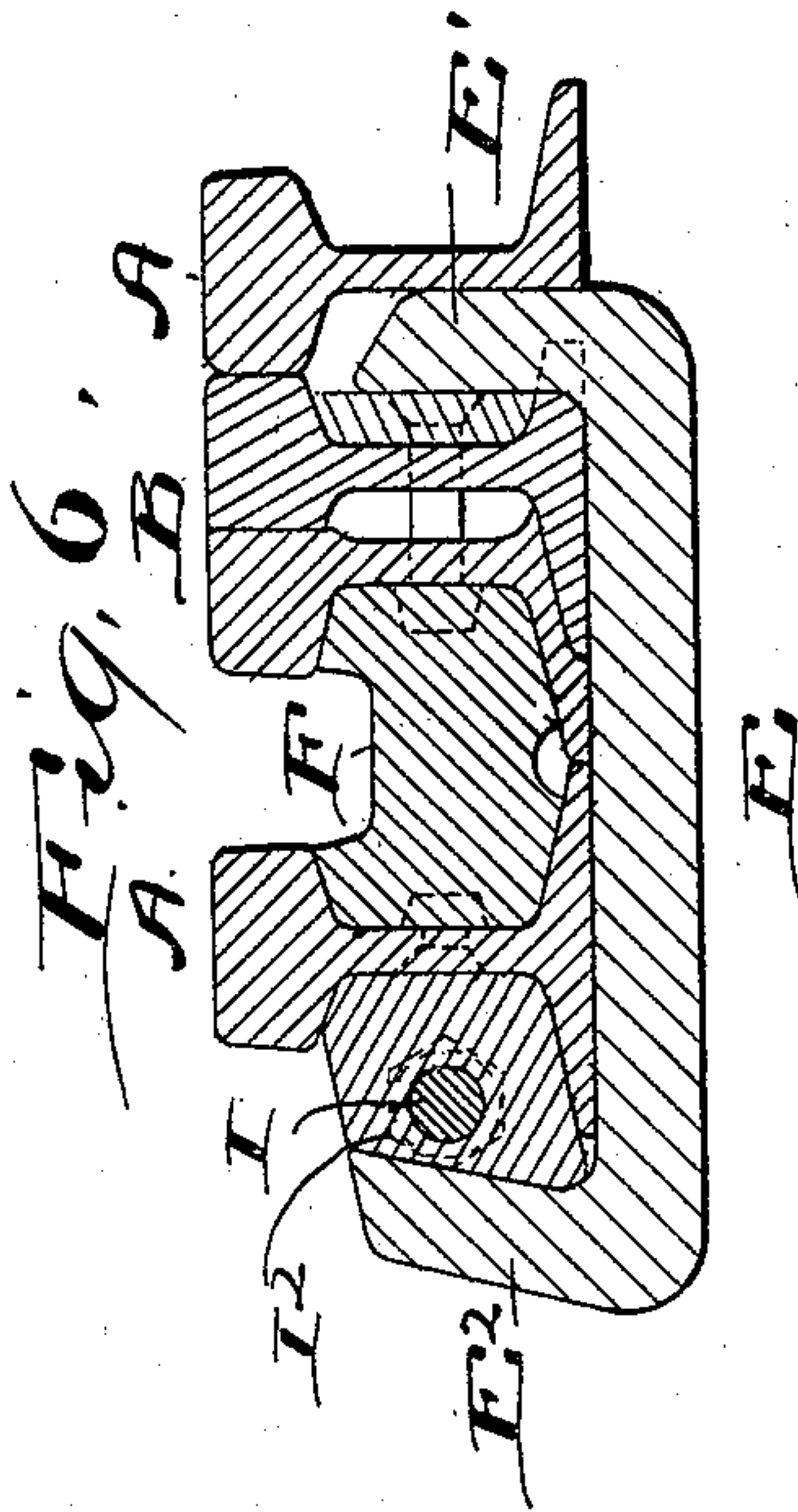
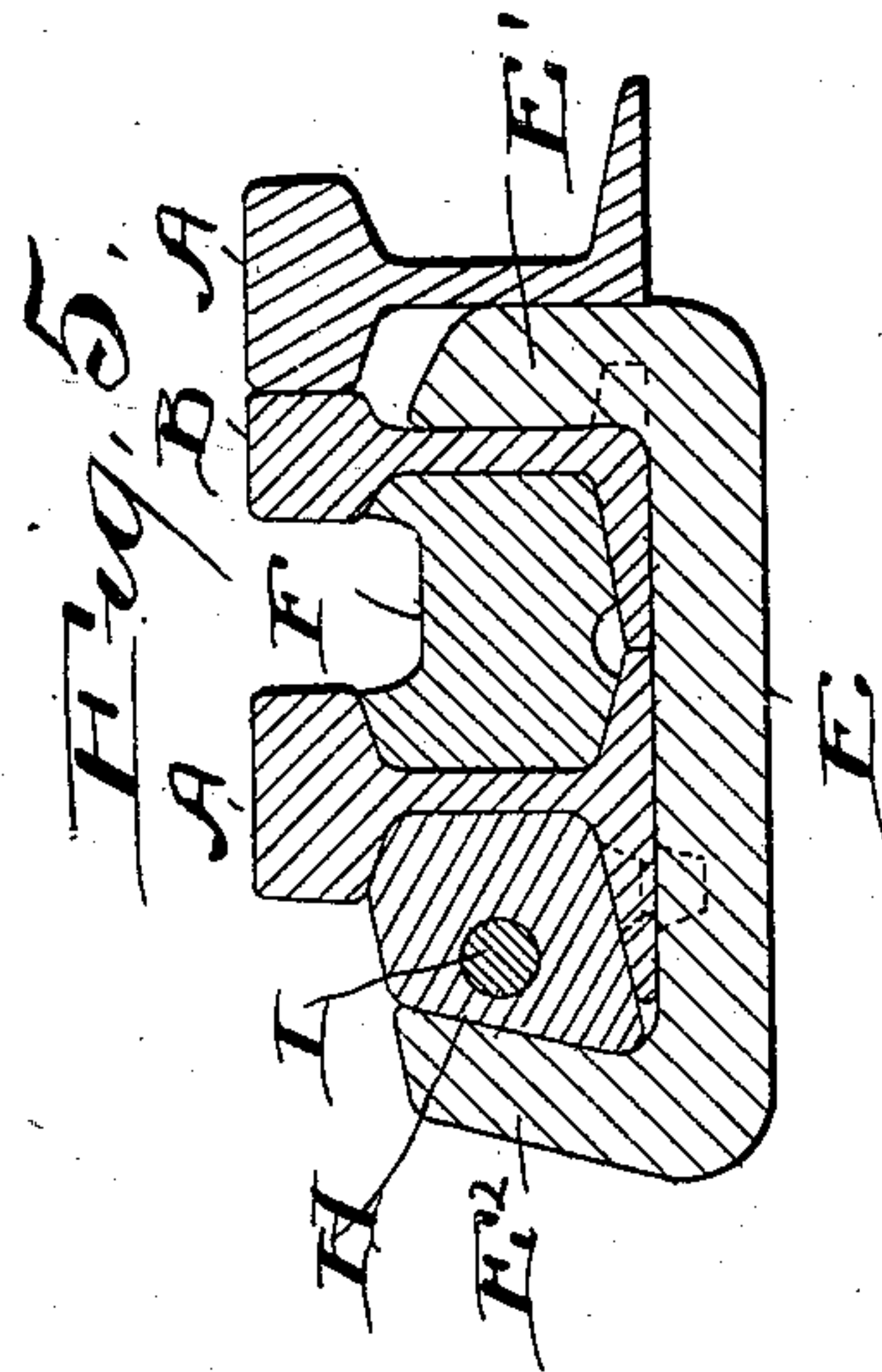
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Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE C. LUCAS, OF CLEVELAND, OHIO.

CLAMP RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 567,401, dated September 8, 1896.

Application filed June 8, 1896. Serial No. 594,689. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. LUCAS, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Clamp Railway-Frogs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in clamp railway-frogs; and it consists in certain features of construction and combinations of parts, hereinafter described, and pointed out in the claims.

The object of my invention is to clamp the rigid wing rail or wing rails and inner rails and interposed filling of the frog together by a construction exceedingly simple, durable, and reliable, and easily taken care of and kept in order.

In the accompanying drawings, Figure 1 is a top plan, partly in section, of a rigid or stiff railway-frog embodying my invention. Figs. 2 and 3 are transverse vertical sections on lines 2 2 and 3 3, respectively, Fig. 1, looking in the direction of the arrows. Fig. 4 is a top plan of a so-called "spring-frog" embodying my invention. Figs. 5 and 6 are transverse sections on lines 5 5 and 6 6, respectively, Fig. 4.

Referring to Figs. 1, 2, and 3 of the drawings, A A designate the outer rails or wing rails of the frog, and B B represent the converging pointed inner rails. One of the rails B is shorter than the other, and is called the "short-point rail," and the other inner rail, the long-point rail, terminates in the point C of the frog. Filling-blocks F are interposed between the outer rails and inner rails. The wing rails at opposite sides, respectively, of the pointed rails, converge in the direction of the frog's point, and said converging portions of the wing rails extend over two clamping bars or yokes E E arranged a suitable distance apart and made preferably of steel or wrought metal. One of yokes or bars E extends in under the rails of the frog at or near the latter's point, and is consequently shorter than the other bar or yoke E that extends in under the rails of the wider portion of the frog a suitable distance from said point. Each member E terminates at one side of the frog in an upwardly-projecting jaw E', having, preferably,

an undercut inner face engaging the downwardly and outwardly sloping surface of a block G interposed between said jaw and the web of the adjacent wing rail of the frog. Each block G and the adjacent wing rail and jaw are shown arranged parallel with each other, and the block fits the space between the head and base of said rail. Each member E terminates at the opposite side of the frog in an upwardly-projecting jaw E', having, preferably, an undercut face engaging the downwardly and outwardly sloping surface of a wedge H interposed between said jaw and adjacent wing rail. The wedge fits between the head and base of said rail. The jaws E' of the two clamping bars or yokes converge somewhat inwardly, and the two wedges driven between said jaws and the adjacent wing rail are arranged with their smaller ends *vis-à-vis* and are actuated or drawn toward each other to tighten or clamp together the members of the frog. A bolt I extends longitudinally and easily through the two wedges H H. The bolt's head I' engages the larger end of one of the wedges, and a nut I² engages the screw-threaded shank of the bolt at the larger end of the other wedge. Upon screwing up the nut the wedges are brought closer together and drawn tightly into the space between jaws E' and adjacent wing rail, and thereby cause the members of the frog to be firmly clamped together. Rivets L, secured to the base of the wing rails adjacent or contiguous to the opposing edges of the two clamping-bars, prevent endwise displacement of said bars in drawing the wedges together.

Figs. 4, 5, and 6 exhibit a so-called "spring-frog" embodying my invention. No filling-block F is interposed between the long-point inner rail and wing rail at the outer side of said inner rail, but said wing rail in its normal position abuts said inner rail. Said wing rail is capable of a limited movement laterally and outwardly against the action of any suitable number of suitably-applied springs K, and, as is well understood by those familiar with the operation of spring-frogs, said actuation of the spring wing rail against the action of the aforesaid springs is effected by the wheel's flange upon the passage of the wheel over the long-point rail. Filling-blocks F are interposed between the frog's

inner rails and stiff wing rail. The wedges H are interposed between the outer side of said rigid wing rail and jaws E² of the clamping bars or yokes, and jaws E' project upwardly between the spring wing rail and adjacent long-point inner rail and bear against the outer side of said inner rail. The base of the spring wing rail and base of the adjacent inner rail are, of course, cut away where required to accommodate the location of jaws E'.

What I claim is—

1. In a clamp railway-frog, the combination of the inner rails; the rigid wing rail or wing rails; the filling interposed between the rigid wing rail or wing rails and inner rails; two clamping bars or yokes extending transversely of the under side of said rails and arranged a suitable distance apart, said yokes or bars having upwardly-projecting jaws between which the rails are clamped; wedges interposed between the jaws at one side of the frog and adjacent wing rail and arranged with their smaller ends *vis-à-vis*, and a member extending longitudinally through both of said wedges, and provided with means for holding the wedges in the desired adjustment apart, substantially as and for the purpose set forth.

2. In a clamp railway-frog, the combination of the inner rails; the rigid wing rail or wing rails; the filling interposed between the rigid wing rail or wing rails and inner rails; two clamping bars or yokes extending transversely of the under side of said rails and arranged a suitable distance apart, said yokes or bars having upwardly-projecting

jaws between which the rails are clamped; wedges interposed between the jaws at one side of the frog and adjacent wing rail and arranged with their smaller ends *vis-à-vis* and a single bolt extending longitudinally through said wedges, said bolt having a member bearing against the larger end of one of the wedges, and provided with another member bearing against the larger end of the other wedge, substantially as set forth.

3. In a clamp railway-frog, the combination of the inner rails; the rigid wing rail or wing rails; filling interposed between the rigid wing rail or wing rails and inner rails; two clamping bars or yokes extending transversely of the under side of said rails and arranged a suitable distance apart, said yokes or bars having upwardly-projecting jaws between which the rails are clamped; wedges interposed between the jaws at one side of the frog and adjacent wing rail and arranged with their smaller ends *vis-à-vis*; a single bolt extending longitudinally and easily through both of said wedges and having its head bearing against the larger end of one of said wedges, and a nut or member engaging the bolt's shank and bearing against the larger end of the other wedge, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d day of June, 1896.

GEORGE C. LUCAS.

Witnesses:

C. H. DORER,
ELLA E. TILDEN.