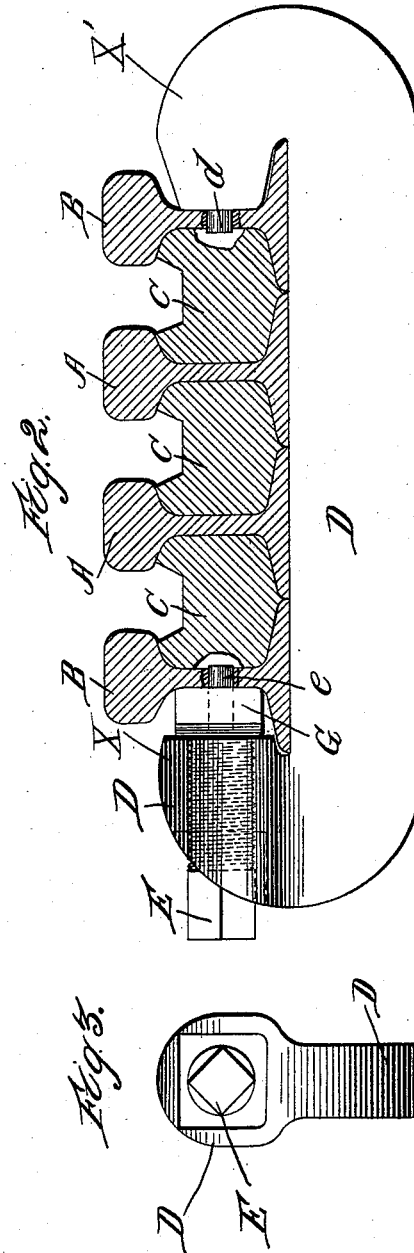
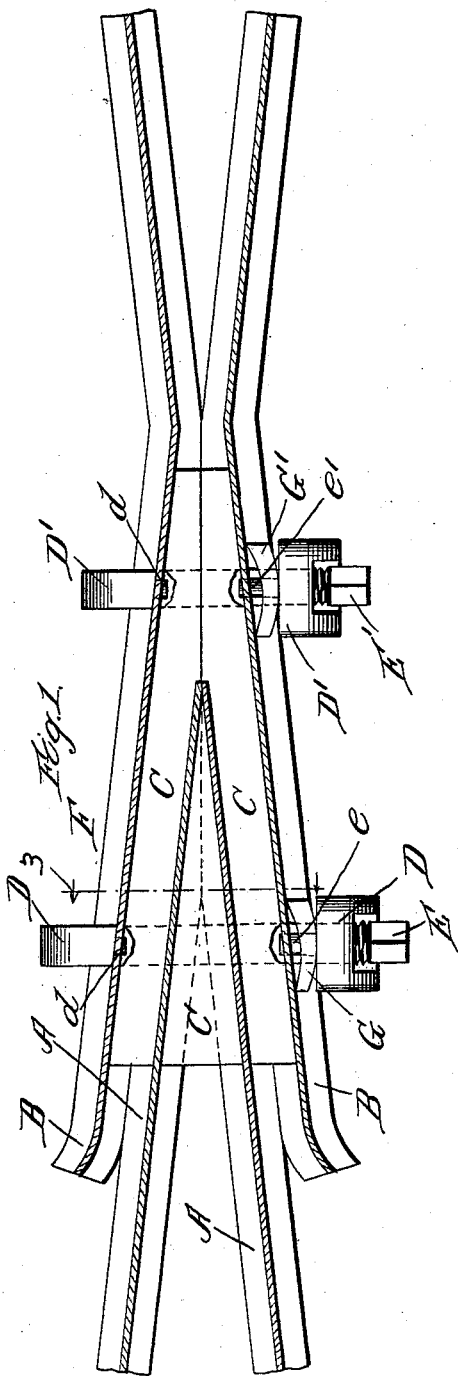


(No Model.)

A. L. STANFORD.  
RAILWAY FROG.

No. 522,240.

Patented July 3, 1894.



Witnesses:  
S<sup>r</sup> M. Rhew.  
Harry White.

Inventor:  
Arthur L. Stanford.

# UNITED STATES PATENT OFFICE.

ARTHUR L. STANFORD, OF EVANSTON, ILLINOIS.

## RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 522,240, dated July 3, 1894.

Application filed January 11, 1894. Serial No. 496,560. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR L. STANFORD, a citizen of the United States, and a resident of the city of Evanston, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

My invention relates to improvements in the class of railway frogs having the wing and point rails fastened together by means of clamps which extend across the bases of the frogs transversely.

The object of my invention is to provide improved means for holding the parts of the frog together, for permitting them to be conveniently tightened, and as well to provide against the tendency of the parts to work loose when the frog is subjected to use.

In the drawings which I submit herewith, Figure 1 is a horizontal section taken just below the heads of the rails of a railway frog having my improvements. Fig. 2 is a section taken on the line 3 of Fig. 1 viewed in the direction of the arrow and enlarged. Fig. 3 is an end view of the enlarged end of the clamp D or D' showing also screw threaded bolt E or E'.

F is the frog comprising the wing rails B, point rails A, filling C or its equivalent, and the improvements as above stated which it is the object of my invention to provide.

D and D' are clamps each formed of suitable material and having their end portions turned toward each other to form the hooks X and X'. Said hooks X and X' are sufficiently enlarged, perforated longitudinally, screw threaded and otherwise adapted to receive the screw threaded bolts E and E'. Hooks X' are adapted to press against the web of the wing rails and are preferably provided with projections *d* which enter suitable openings in the web of the wing rails to prevent the natural tendency of the clamps to become loose by slipping toward that point where the wing rails converge. The clamp D is placed near those divergent ends of the wing rails which embrace the point rails, and the clamp D' is placed near the convergent ends of the point rails. The hooked ends X of the clamps D and D' are somewhat shorter than the hooked ends X' to extend short of and leave space between their extremities and the ad-

jacent sides of the web of the rails to admit beveled spring washers G and G'.

Tightening bolts E and E' are screw threaded a portion of their length and made square a portion of their length near their outer ends to take a wrench, and are provided with extensions *e* and *e'* at their other ends which pass through the beveled spring washers G and G' and penetrate the web of the wing rails. This prevents the clamps from slipping at this end. It is sufficient to provide the bolts E and E' at one end only of each clamp, though if required they may be provided at both ends, in which case of course the hooks X' will be made to correspond with the hooks X. The washers G and G' are upon the projections *e* and *e'* of the bolts E and E'. These washers are beveled to account for the angle of the wing rails, and are concavo convex that they may yield somewhat under the pressure of the bolts E and E'. This yielding of the washers relieves the jar upon the bolts when the frog is in use and operates as an effectual lock to prevent said bolts from working loose.

As appears from the drawings, and the foregoing description, if in the use of the frog the parts become loosened they may be readily tightened by means of the clamps and tightening bolts.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a railway frog the combination of the wing rails B and point rails A, braced immediately by filling C or its equivalent, of clamps D and D' each comprising a bar having its ends turned toward each other affording the hook shaped extremities X and X', the said clamps embracing the frog across its base so as to confine the wing and point rails thereof; and tightening bolts or set screws E and E' contained within one or both of said hook shaped extremities X and X' and adapted to bear against the outer sides of the wing rails substantially as set forth.

2. In a railway frog the combination of the wing rails B and point rails A braced immediately by filling C or its equivalent, of clamps D and D' each comprising a bar having its ends turned toward each other affording the hook shaped extremities X and X'; the said clamps embracing the frog across its

base so as to confine the wing and the point rails thereof; and tightening bolts E and E' for tightening said clamps; said tightening bolts having the projections *e* and *e'* to prevent same from slipping from place, substantially as described.

3. In a railway frog the combination of the wing rails B and the point rails A braced intermediately by filling C or the like; of clamps D and D' each comprising a bar having its ends turned toward each other affording the hook shaped extremities X and X', the said

clamps embracing the frog across its base so as to confine the wing and the point rails thereof; said hook shaped extremity X' being provided with the projection *d* to penetrate the web of the wing rail to prevent the clamp from slipping from place; and tightening bolts E and E' for tightening said clamps substantially as described.

ARTHUR L. STANFORD.

Witnesses:

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GEO. E. STANFORD.