

G. C. LUCAS.
RAILWAY FROG.
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926,990.

Patented July 6, 1909.

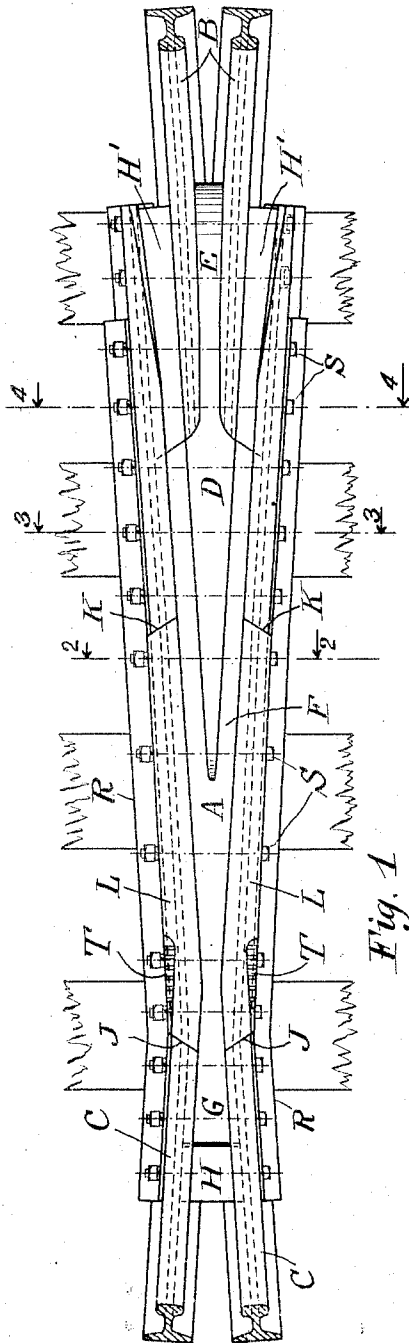


Fig. 1

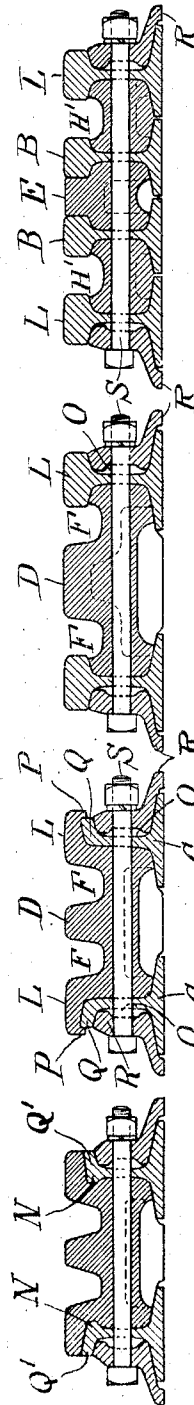


Fig. 2

Fig. 3

Fig. 4

Fig. 5

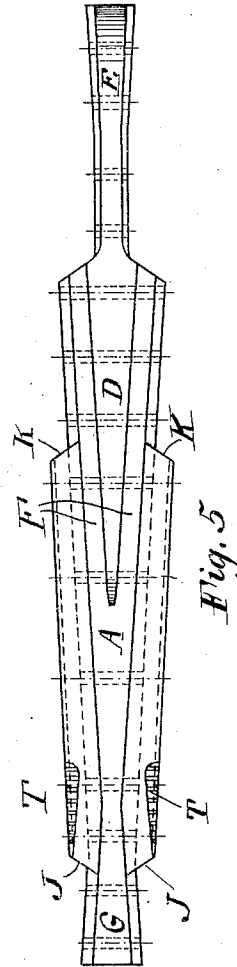


Fig. 6

WITNESSES

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RAILWAY-FROG.

No. 926,990.

Specification of Letters Patent.

Patented July 6, 1909.

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To all whom it may concern:

Be it known that I, GEORGE C. LUCAS, a citizen of the United States, and a resident of the city of Cleveland, State of Ohio, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification, accompanied by drawings.

The invention relates to a railway frog of that class in which the center portion or frog body, in order to withstand hard service, is made of some especially hard and tough material, such as manganese steel.

The object of the invention is to produce a frog especially adapted to hard service, and so constructed that very strong support is afforded against vertical as well as horizontal displacement of any of the parts.

Further objects of the invention will hereinafter appear.

The drawings show two embodiments of the invention in the best form known to me.

Figure 1 is a plan view of a railway frog embodying the invention; Figs. 2, 3, and 4 are transverse sectional views of the same on the lines 2—2, 3—3, 4—4, respectively, of Fig. 1 looking in the direction of the arrows. Fig. 5 is a plan view of the frog body detached. Fig. 6 is a transverse sectional view of a modification on the same plane as Fig. 2.

Referring to the drawings, A represents a frog body which is preferably a casting or forging of manganese steel or other suitable material of the form shown in the drawings. The frog rails are marked B and C.

The frog body A has a point D against which the two track rails B abut and preferably a heel extension E here shown extending between said rails. The frog body is also provided with the flange grooves F and preferably the toe extension G adapted to extend between the frog rails C. If desired, a filler block H may also be provided adjacent to the toe extension G. Filler blocks H' may also be provided at the other end of the frog between the wings K and rails B.

The frog rails C extend throughout the length of the frog body and project to form wing rails, as shown. Their heads are cut away and interrupted across the entire width of their tread surface between the points J and K and replaced by the lateral tread portions or heads L of the frog body. Preferably the channels O on the outer sides of the frog rails are left entirely unimpaired to fit splice bars or angles, and only the inside portion and the upper portions of the heads of rails C

are cut away as shown in the section and replaced by the tread portions L of the frog body. Preferably the heads or treads L are provided with the downward extending lips or flanges P for coacting with and gripping the remaining portions of the rail heads Q, as shown in Fig. 2, to aid in preventing transverse movements in the structure. Suitable fishing plates, preferably in the form of angle bars R, extend along the frog rails C to give additional strength and security and the parts are bolted together at frequent intervals by bolts S. Inclines T on the frog body for receiving the false flanges of the treads of worn wheels are shown where the head portions L widen out from the rail C to form easier surfaces.

It will be seen that the toe extension G, which extends beneath the heads of rails C, as shown, will serve to lock the frog body down to the rails and support the rail heads from beneath, and toward the other end of the frog at K a similar purpose is served by the extension of the frog body beneath the heads of the wing rails and by the extension E beneath the heads of the rails B. These provisions afford strong support against upward vertical displacements of the frog body in respect to the rails.

The modification of the invention shown in Fig. 6 is similar except that the downward extending lips P of the treads or heads L of the frog body are omitted, and that an inward projecting part N of the cut-away rail head Q' interlocks with the frog body to aid in holding it down.

It will be seen that according to this invention strong resistance is afforded in the structure to longitudinal, to transverse, and to vertical movements of the parts. The frog body and rails are interlocked and clamped securely together. The structure is simple. The parts are readily assembled. The frog is efficient in use and easy to construct.

I claim and desire to obtain by Letters Patent the following:

1. A railway frog having a frog body provided with tread portions and flange grooves, and one or more frog rails extending throughout the length of the frog body, said rail being cut away and interrupted across the entire width of the tread surface and the interrupted portion replaced by the tread of the frog body, said frog body having one or more portions extending beneath the head or

heads of the cut-away rail or rails to prevent vertical displacement.

2. A railway frog having a frog body provided with tread portions and flange grooves, and one or more frog rails having the channel on the outside continuous and having the upper portion of the head entirely cut away for an interval and replaced by the tread of the frog body, and a splice bar or angle bar secured in said channel, said frog body having one or more portions extending beneath the head or heads of the cut-away rail or rails to prevent vertical displacement.

3. A railway frog presenting in cross section a frog body that overlies a cut-away portion of one or more of the frog rail heads, leaving a portion of such head or heads for coaction therewith, said portion including an

inward projecting part that is fitted to the frog body.

4. A railway frog presenting in cross section a frog body that overlies a cut-away portion of one or more of the frog rail heads, leaving a portion of such head or heads for coaction therewith, one or more of said rails extending beyond said cut-away portion for a substantial distance and forming one or more wing rails beneath the heads of which the frog body extends.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses, January 12th 1909.

GEORGE C. LUCAS.

Witnesses:

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M. M. RIEMANN.