No. 681,903. Patented Sept. 3, 1901.

F. C. ANDERSON.

FROG FOR RAILWAY RAILS.

(Application filed Dec. 17, 1900.)

(No Model.)

Fig. 1.

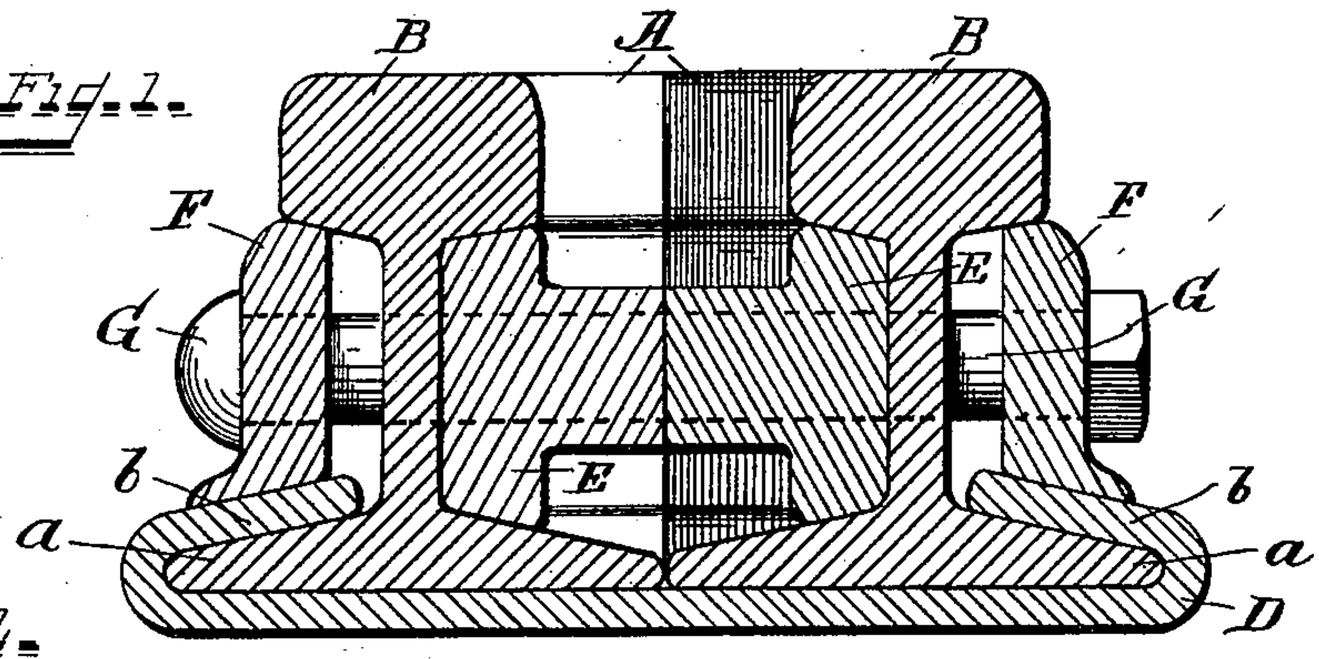


Fig. 2.

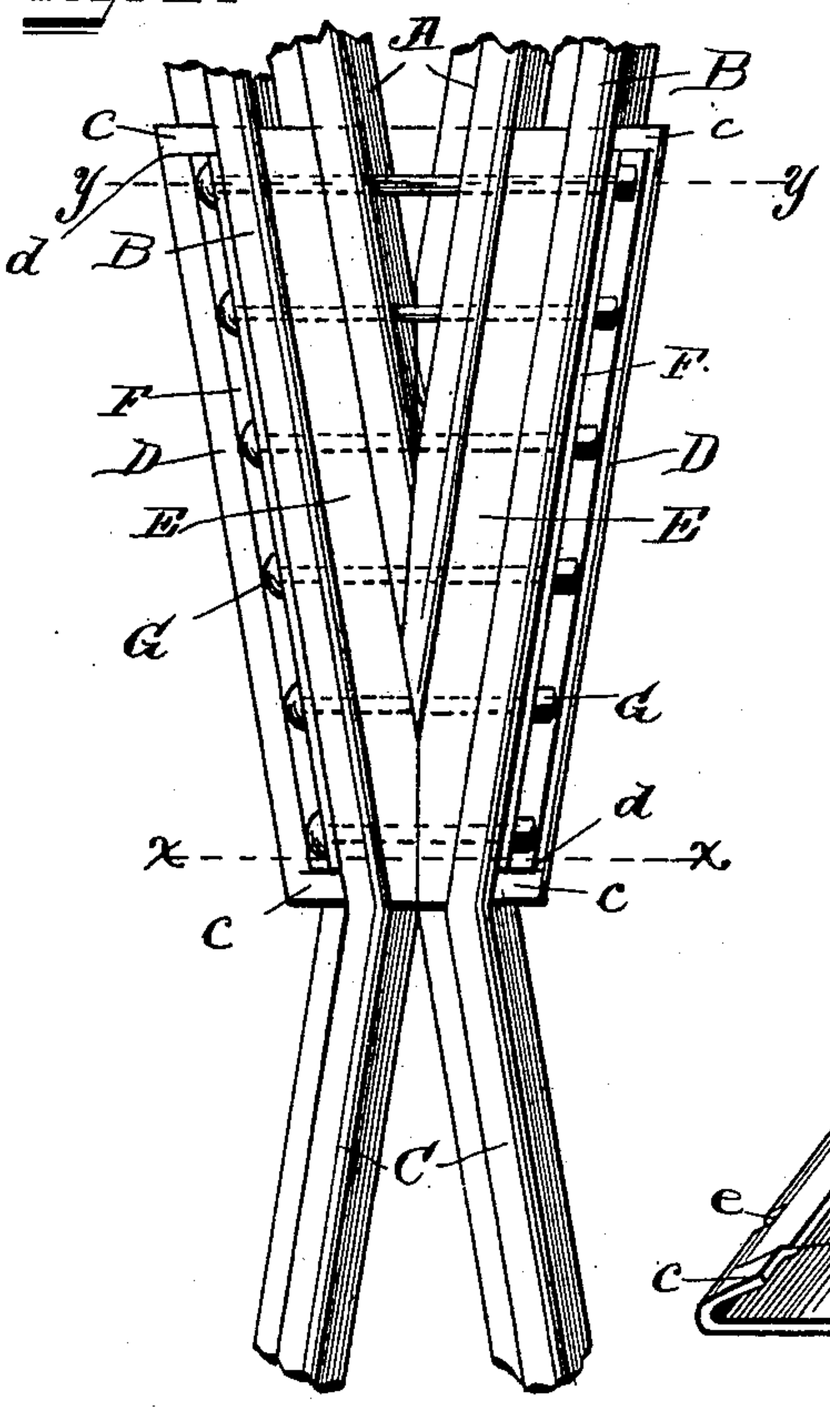


Fig. 4.

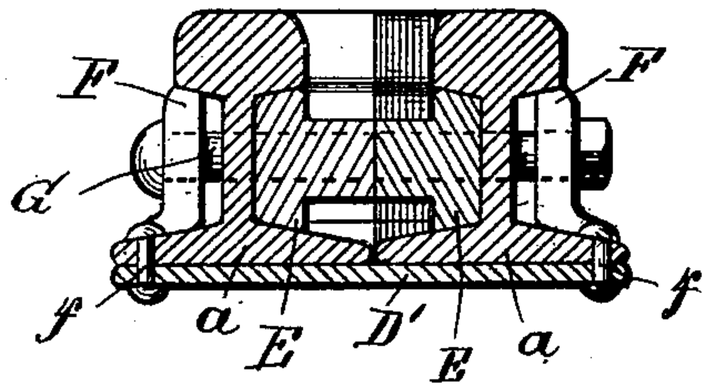


Fig. 3.

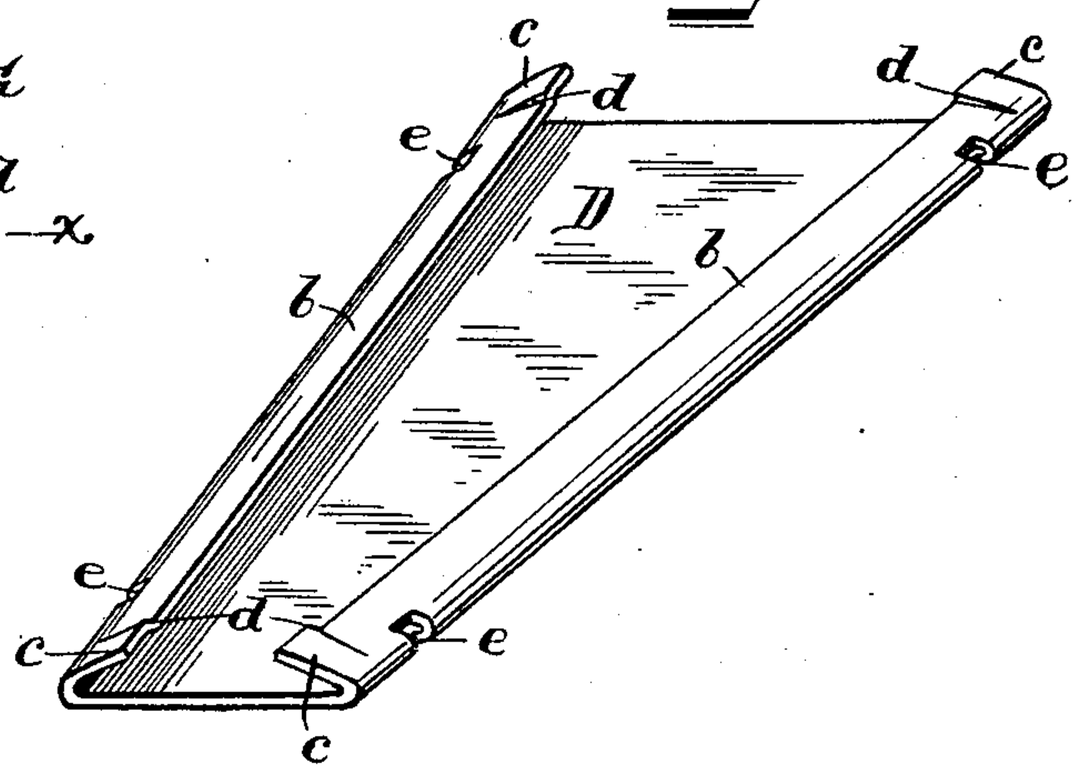
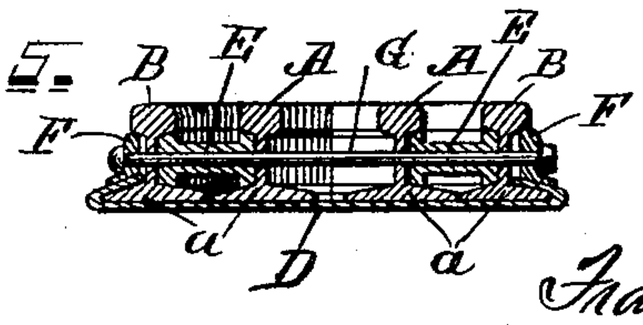


Fig. 5.



Witnesses.
Wm. J. Peck.
Leo W. Zapf.

Inventor.
Frank C. Anderson
by Chas. M. Peck
his Attorney.

UNITED STATES PATENT OFFICE.

FRANK C. ANDERSON, OF CINCINNATI, OHIO, ASSIGNOR OF TWO-THIRDS TO GEORGE W. ZAPF AND SALMON JONES, OF SAME PLACE.

FROG FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 681,903, dated September 3, 1901.

Application filed December 17, 1900. Serial No. 40,143. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. ANDERSON, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Frogs for Railway-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in railway-rail frogs, by which the same can be cheaply constructed and firmly united and supported so as to be self-sustaining and to resist successfully the vibrating shocks and jars incident to the passage of the car-wheels over them, thereby greatly increasing the life of the frog and tending largely to increase the safety of travel and permit high speeds.

The novelty of my invention will be hereinafter set forth and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is an enlarged sectional end elevation of a frog embodying my invention, taken on the dotted line *x x* of Fig. 2. Fig. 2 is a plan view of so much of a frog as embodies my invention. Fig. 3 is a perspective view of the sleeve-chair. Fig. 4 is a diminished sectional elevation corresponding to Fig. 1, but representing a modification in the construction. Fig. 5 is a sectional end elevation through the dotted line *y y* of Fig. 2 looking downward.

The same letters of reference are used to indicate identical parts in all the figures.

A A are the usual point-rails of the frog, and B B the guard-rails lying adjacent thereto and forming continuations of the intersecting track-rails C C, all after the manner usual in frog construction.

D is a taper chair-sleeve adapted to fit under and support the feet *a a* of the rails and having turned-over upper portions *b* to embrace the outer top sides of the feet, as seen. The ends of the taper chair-sleeve are buckled up, as at *c*, Fig. 3, to form stop-shoulders *d*, or any other suitable end stops may be applied to the upper sides of the turned-over portions *b* at their ends, and notches *e* are cut in the folded edges of the sleeve for the passage of the spikes which unite the sleeve and rail-feet to the cross-ties.

The guard-rails B are properly placed in the chair-sleeve, whose narrow tapered end extends up to the angle formed by the guard-rails and the track-rails C, as seen in Fig. 3, and two filling-blocks E, of metal, which are T-shaped in cross-section, as seen in Fig. 1, from the extreme point of the frog forward, and are dumb-bell shaped from the point of the frog rearward, as seen in Fig. 5, are driven in place with their heads fitting to the webs, feet-flanges, and under sides of the heads of both the guard and point rails, both to support the same vertically and laterally. Fish-plates F are applied to the outer sides of the guard-rails with feet resting on the portions *b* of the chair-sleeve and with their upper edges confined under the head of the rail, to both of which they are snugly fitted with a clearance between the fish-plates and webs of the rails, as seen in Fig. 1. The ends of the fish-plates are confined between the stop-shoulders *d* of the chair-sleeve, as seen in Fig. 2, and clamping-bolts G are passed through the fish-plates, the webs of the guard and point rails, and the filling-blocks E to securely unite and clamp all of the parts together, the whole forming a very rigid construction in which the rails are held both from lateral and vertical displacement, thereby preventing pounding on the frog-point, which is a series objection to ordinary frog constructions.

As seen in Fig. 4, it is not essential that the taper chair should be in the form of a sleeve to embrace the outer edges of the feet of the guard-rails, for the same may be simply in the form of a flat taper plate riveted to the underside of the guard-rails or bolted thereto, as seen at *f*, and in this construction the feet of the fish-plates would rest directly upon the foot-flanges of the rails and the heads of the bolts or rivets *f* would form the stops for the ends of the fish-plates.

Having thus fully described my invention, I claim—

1. In railway-frog construction, the combination of a taper chair-sleeve, the guard-rails and point-rails confined therein and sup-

ported thereby, filling-blocks between the guard-rails and point-rails, fish-plates applied to the outer sides of the guard-rails with feet resting on the turned-over portions of the taper sleeve, and clamping-bolts passed through and uniting said fish-plates guard-rails filling-blocks and point-rails, substantially as described.

2. In railway-frog construction, the combination of a taper chair-sleeve, the guard-rails and point-rails confined therein and supported thereby, filling-blocks between the guard-rails and point-rails, fish-plates applied to the outer sides of the guard-rails with feet resting on the turned-over portions of the taper sleeve, stops on said portions for the ends of the fish-plates, and clamping-bolts passed through and uniting said fish-plates guard-rails filling-blocks and point-rails, substantially as described.

FRANK C. ANDERSON.

Witnesses:
OWEN N. KENNEY,
EDWARD PECK.