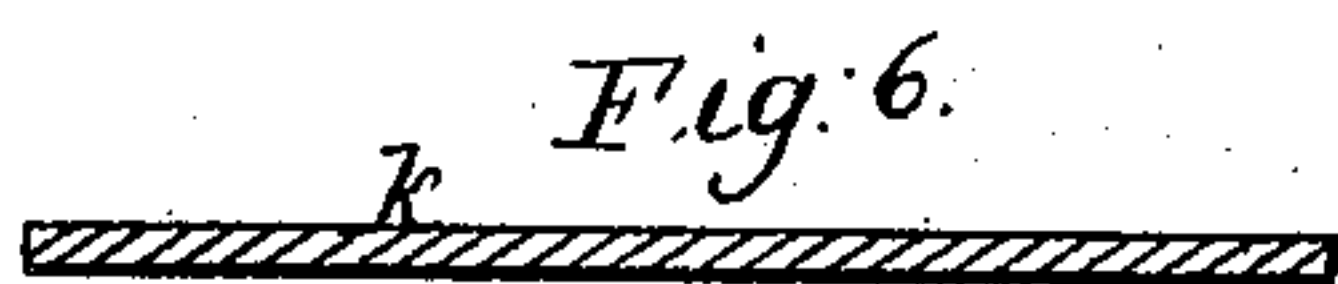
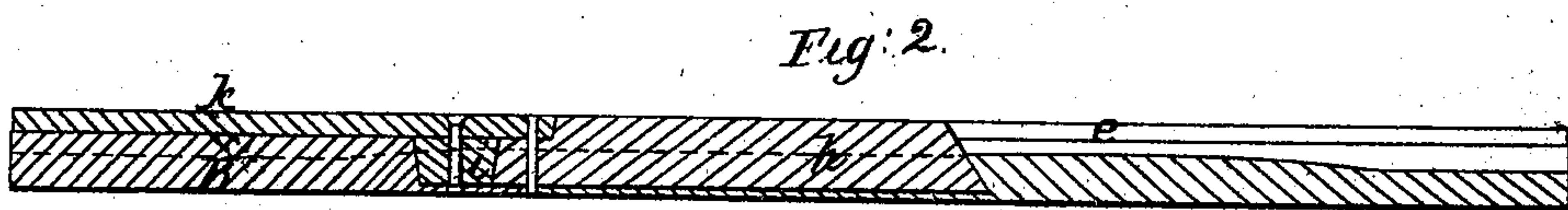
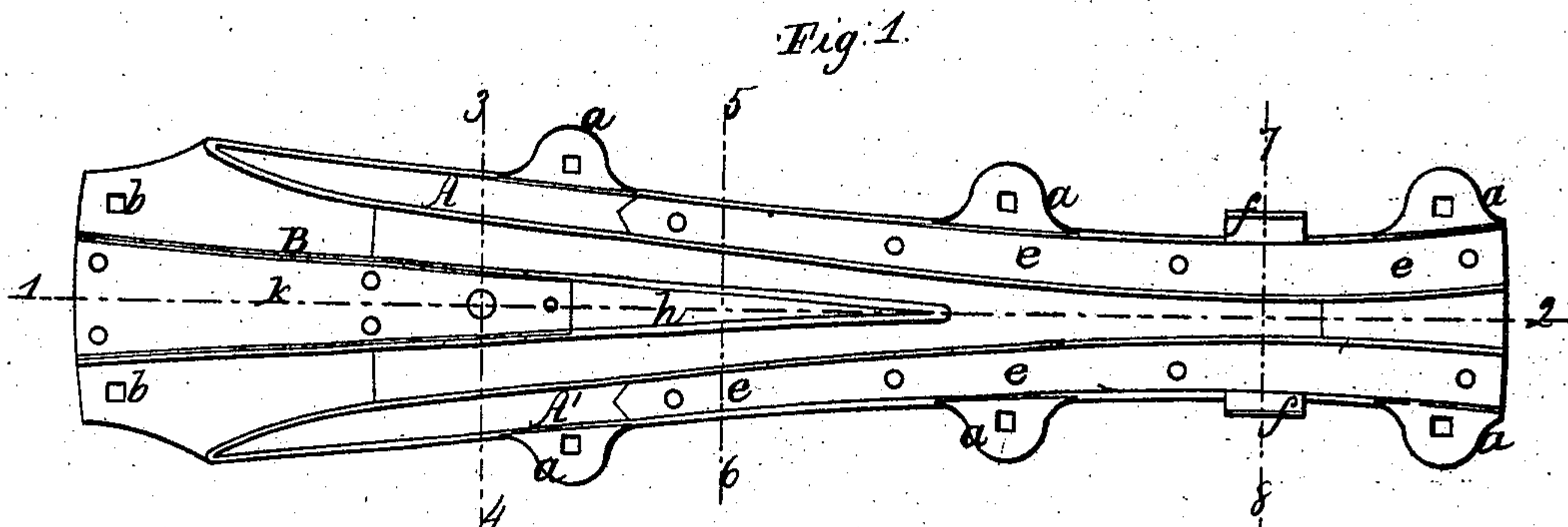


D.D. Lewis,  
R.R. Frog,

No 24,034,

Patented May 17, 1859.



Witnesses;  
Henry H. H. H.  
Saml. Maslyn

Inventor;  
D. D. Lewis



# UNITED STATES PATENT OFFICE.

DAVID D. LEWIS, OF TAMAQUA, PENNSYLVANIA.

## RAILROAD-FROG.

Specification of Letters Patent No. 24,034, dated May 17, 1859.

*To all whom it may concern:*

Be it known that I, D. D. LEWIS, of Tamaqua, Schuylkill county, Pennsylvania, have invented a new and useful Improvement in Railroad-Frogs; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to that class of railroad frogs, in which detachable steel points and tread plates are used; and my invention consists in a certain manner, described hereafter, of constructing, adapting, and securing to each other, a tread plate, block and steel point, whereby the latter is effectually prevented from becoming loose in its socket.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms a part of this specification, Figure 1, is a plan view of my improved railroad frog; Fig. 2, a longitudinal sectional elevation on the line 1, 2 (Fig. 1); Fig. 3, a transverse section, on the line 3, 4 (Fig. 1); Fig. 4, the same, on the line 5, 6 (Fig. 1); Figs. 6, 7 and 8, views of the detachable portions of the frog.

Similar letters refer to similar parts throughout the several views.

My improved frog is of a form somewhat similar to those in common use, consisting of a cast iron plate with three projecting ribs, the exterior ribs A and A' and the intermediate angular rib B. The frog is secured to a suitable foundation by bolts passing through holes in the lugs a, a, and others passing through holes b at the end of the frog. A steel plate e is secured by means of rivets to each of the opposite side ribs A and A', the plates extending in one direction to the end of the frog, and in the other direction extending to within a short distance from the pointed and diverging ends of the ribs, as seen in Fig. 1, so that a hard steel surface is presented at that portion of the ribs, on which the wheels of the car bear.

The flanges of the car wheels, in passing through the narrow space between the ribs A and A', have such a tendency to thrust the steel plates outward, that the rivets do not afford sufficient security to prevent them from being torn from the body of the frog. To obviate this evil, a strip f is cast to and

forms a part of the frog, fitting close against the outside edge of the steel plate e. One such strip is situated on each side and at the narrowest portion of the frog, that being the point where the greatest lateral strain is exerted.

It will be readily seen, that these strips or lugs must effectually resist all outward strain imparted by the flanges of the wheels to the steel plates, and prevent the loosening of the rivets and the removal of the plates from their proper position. As an additional security for the plates, they are made of a V form at the point where they fit to the diverging portions of the ribs, the V formed ends fitting against a shoulder of a similar form on the ribs. No lateral strain can therefore disturb the proper position of the plates at this point.

The intermediate pointed rib B is constructed as follows: The extreme point h consists of steel, let into a recess in the body of the frog, both the point and recess being of the dovetailed form represented in Fig. 4. Between the rear of the steel point h and the rear end of the recess in which it fits, there is a space just large enough to receive the block i, the presence of which within the said space, prevents the sliding back of the point from its dovetailed socket. On the removal of the block i, however, which may be done by simply raising it upward out of its recesses, the steel point h may be slid back from its socket, and raised out of the recess free from the frog. The rear end of the point h is cut away or recessed on the top, so as to receive the end of the steel tread plate k, which is secured by rivets to the intermediate rib of the frog, by a rivet passing through the block i, and by another rivet passing through that end of the tread plate, which overlaps the rear end of the point h, through the latter, and through the body of the frog.

When it becomes necessary to replace the steel point h with a new one, the burred heads of the rivets may be readily cut away, the tread plate k removed, the block i raised from its recess, the worn point h slid back from its socket, and a new point fitted to its place.

It will be observed, that the block i is slightly larger at its upper than on its lower end, so that, on securing the rivet, the block, being thereby driven into its recess, must act as a wedge and force the point h so tight

up into its socket, that no action of the car wheels can loosen it.

I am aware that detachable steel points have heretofore been dovetailed to railroad frogs. I therefore lay no general or broad claim to such a mode of securing the points, but

I limit my claim to, and desire to secure by Letters Patent—

10 The steel point, K, dovetailed to the body of the frog, in combination with the tread plate, L, and the block, i, when the said tread plate overlaps and is riveted to the said

point, and when the block, i, is of such a tapering or wedge shaped form that during the process of riveting it and the tread plate to the body of the frog, the said block may serve the purpose of driving the point tight up into its socket for the purpose specified. 15

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses. 20

D. D. LEWIS.

Witnesses:

JOHN C. CONRAD, Jr.,  
HENRY ODIORNE.