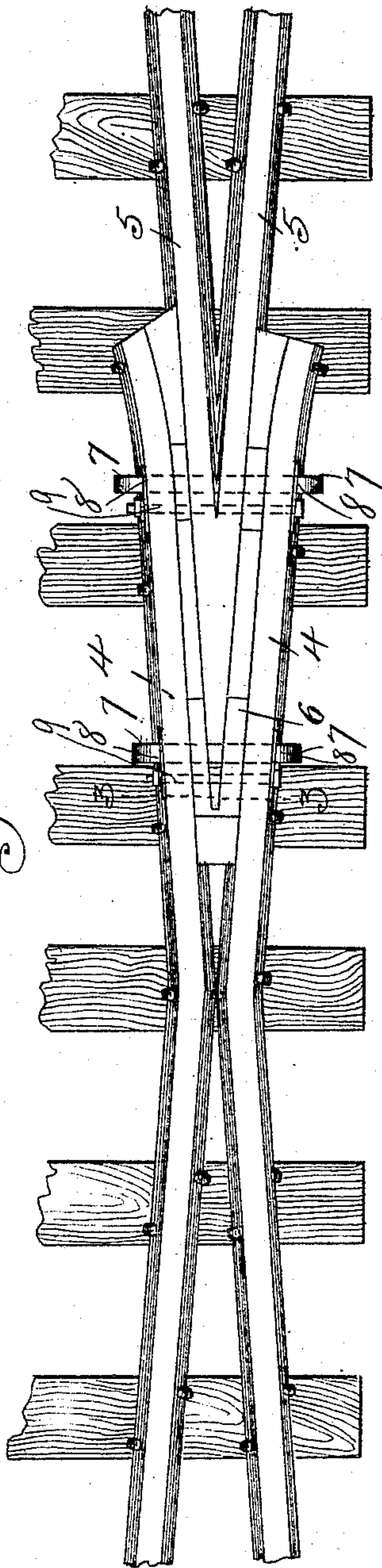
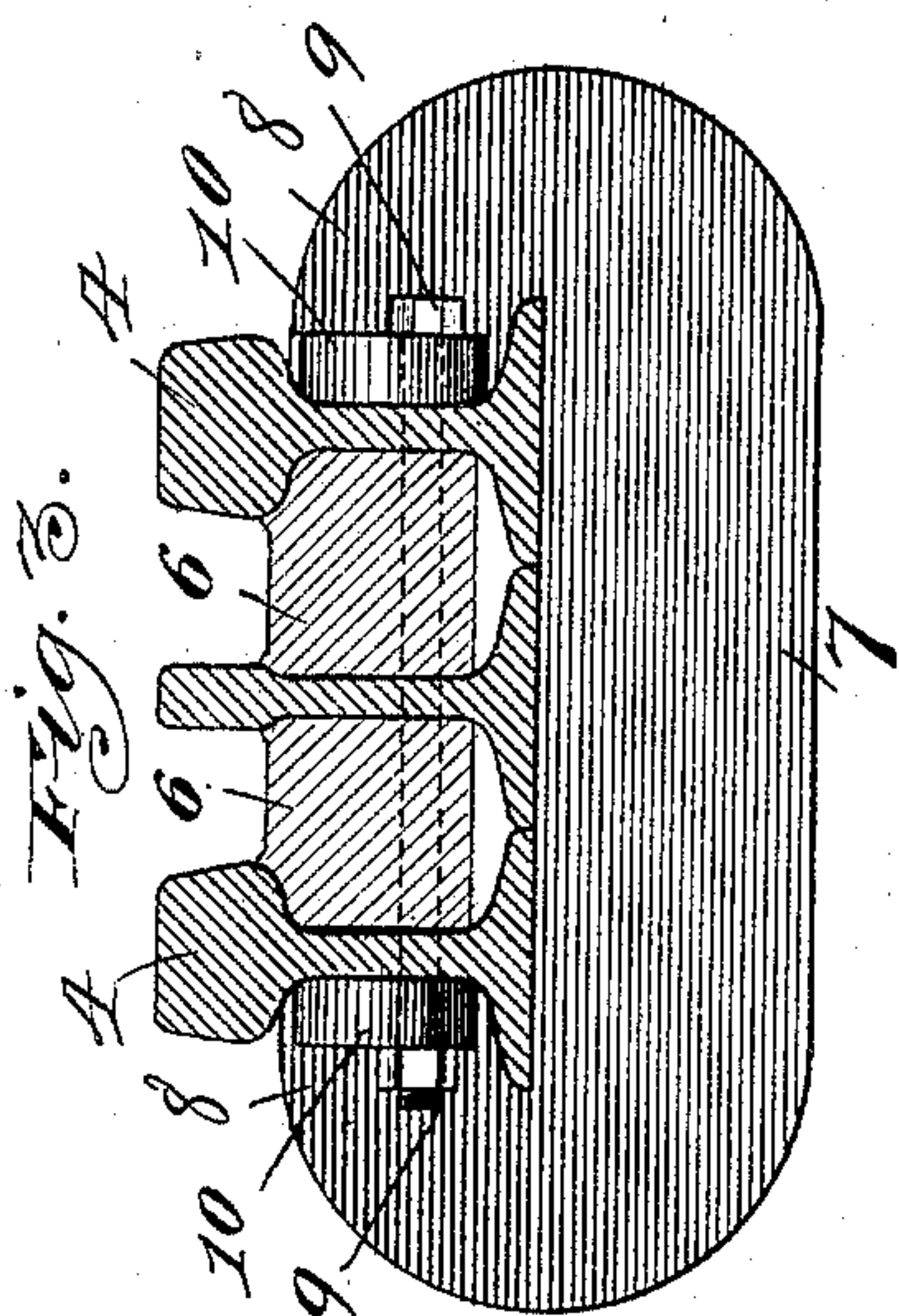
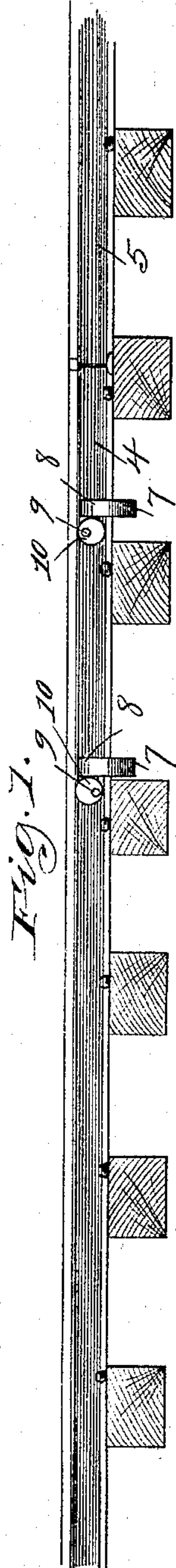


(No Model.)

J. McKINNON.
RAILWAY FROG.

No. 489,979.

Patented Jan. 17, 1893.



Witnesses,
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UNITED STATES PATENT OFFICE.

JOHN MCKINNON, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIAM J. MORDEN,
OF SAME PLACE.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 489,979, dated January 17, 1893.

Application filed March 22, 1892. Serial No. 425,964. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCKINNON, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

This invention relates to a railway frog; and its object is to provide a simple, safe and efficient clamp for securing the parts of the frog together, and in such manner that the clamping device can be readily adjusted when the parts become loose.

To this end my improved clamping device comprises a clamp constructed from a bar of metal having its ends upset in the plane of its body to provide hooks which bear upon the webs of the rails between their heads and bases or upon filling pieces interposed between said hooked ends and said webs, through-bolts which are passed through apertures in the webs of the rails behind the clamps and which serve to draw the parts of the frog together laterally, such through-bolts being provided with tightening nuts upon their ends, and eccentric washers apertured for the passage of the ends of the through-bolts and interposed between the nuts and the webs of the rails and adapted to be rocked in order to bring them to bear upon the hooked ends of the clamp and thus to form adjustable stops or abutments for the ends of the clamps to hold such clamps in their adjusted positions. In this construction sole reliance is not based, therefore, upon the clamps themselves but upon the clamps re-enforced by the through-bolts, while the clamps and eccentric washers serve to re-adjust the parts when they become loose from use.

In the drawings, Figure 1 is a side elevation of the frog. Fig. 2 is a plan view thereof; and Fig. 3 is a section on the line 3—3 of Fig. 2.

In the drawings, 4, 4 represent the wing rails and 5, 5 the point rails.

6 is the interposed filling which may be of any suitable nature.

7 represents the clamp which is of a known form and preferably composed of a metal bar bent at its ends in the plane of its body to provide the in-turned embracing hooks 8, the ends of which may rest directly upon the

webs of the rails or upon a filling piece interposed between the web and the ends of said hooks.

9 represents the through-bolts which are passed through apertures in the webs of the wing rails and point rails and through the interposed filling, such through-bolts being provided with tightening nuts.

10 represents eccentric washers, the form of which is shown in Fig. 1, these washers being apertured for the passage of the ends of the through-bolts exterior to the rails. The apertures for the through-bolts are preferably formed in the webs of the rails near their bases so as to give the greatest possible rotative movement to the eccentric washers to secure their full capacity of adjustment. The clamps are secured upon the rails by shrinking so that they are, in the first instance, given the greatest possible opportunity for lateral compression of the rails and interposed filling.

It has been found in use that no matter how securely said clamps may be applied to the frog in the original construction, in course of time the clamps will work loose, owing to the compression of the filling and the creeping of the clamps under the shocks and strains of service and owing to the taper of the rails, thus rendering re-adjustment of the clamps necessary. To effect this re-adjustment the clamps are driven toward the wider end of the frog to tighten them and the eccentric washers turned so as to bring their edges to bear upon the rear sides of the clamps in their adjusted position, thus locking them securely in place. It is entirely feasible to form these eccentric washers of such size that they can be given the necessary rocking movement upon the bolts to form sufficient adjustment for the clamps, so long as the frog is capable of use. It is evident that the nuts themselves might be made eccentric and used for the double purpose of drawing the rails and filling together and to form stops for the clamps, but I prefer to use the separate washers because the employment of the nuts for the double purpose is not, for obvious reasons, the best construction.

Without limiting myself to the exact and precise details of construction, I claim:

1. In a railway frog, the combination with the frog rails of an adjustable clamping device therefor comprising clamps having returned ends adapted to bear against the outer
5 sides of the wing rails, through-bolts passing through the webs of the rails and provided with eccentric tightening means adapted to be rocked around the bolts in order to bear upon the sides of the clamp ends nearest the
10 point of the frog, substantially as described. adapted to bear against the outer sides of the wing rails, through-bolts passing through the webs of the rails and provided with tightening nuts and eccentric washers mounted on the bolts and adapted to be rocked so as to bear upon the sides of the clamp ends nearest the point of the frog, substantially as described. 15 20
2. In a railway frog, the combination with the frog rails, of an adjustable clamping device therefor comprising a clamp having ends

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