(No Model.)

J. A. & A. H. HOWLAND

RAILROAD FROG.

No. 249,469. Patented Nov. 15, 1881.

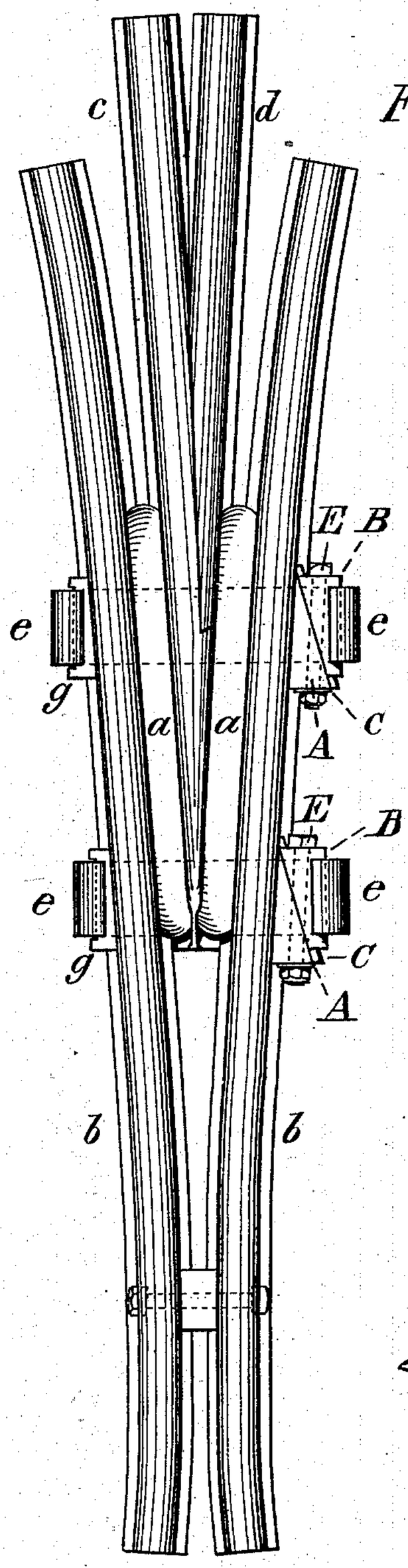


Fig. 1.

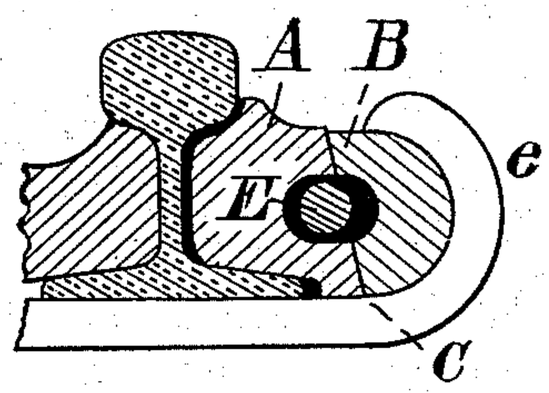
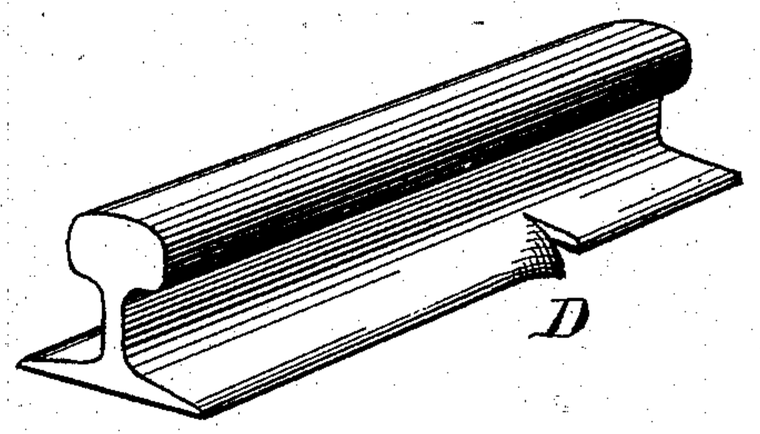


Fig. 2.

Fig. 3.



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JOSEPH A. HOWLAND AND ARTHUR H. HOWLAND, OF WORCESTER, MASS.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 249,469, dated November 15, 1881.

Application filed July 13, 1881. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH A. HOWLAND and ARTHUR H. HOWLAND, both of the city and county of Worcester, and State of Massachusetts, have invented a new and useful Improvement in Rail-Frogs for use on railroads, of which the following is a specification, the accompanying drawings representing the same.

Figure 1 shows a plan view of the complete frog. Fig. 2 is a partial cross-section view of the clamp with the wedge-blocks, showing the inclined faces of the blocks, and Fig. 3 showing the bent notch in the rail to seat the clamp against.

These frogs are constructed of rails of corresponding section with the rails of the track in which they are to be placed, and to which they can be joined by the usual fish-joints, making the frog a part of the track itself. The rails are bent and shaped to the proper form, as shown in the annexed drawings, Fig. 1, with fitted space-blocks *a a* of the right width between the wing-rails *b b* and those which make the point and heels *c d*. These are all clamped together with flat iron straps *e e*, which pass under the bottom flanges of the rails which rest on them, and the ends of which are turned up to hold the fastening-blocks on the outside of the wing-rails. These blocks consist of two wedge-shaped pieces, A B, Figs. 1 and 2, the longer one, A, being fitted in shape against the neck of the rail, between the flange and the ball, and the other one, B, to fill the turned-up end of the clamp-iron, as shown in Fig. 2. The inclined faces of these blocks, which slide against each other, are inclined on the vertical as well as on the horizontal line C, Fig. 2, and as these two are drawn together by turning the nut on the longitudinal bolt which passes through them both, the head of the bolt seating against the end of one block and the nut against the opposite end of the other, they hold the rails and blocks tightly in the clamps in the transverse horizontal line, and also bind the rails firmly and securely down to their seat on the clamps. These wedge-blocks may be used in either one or both ends of the clamps. If used in only one end, there is placed in the other end a solid block, *g*, Fig. 1, fitted to the rail on one side and the end of the clamp on the other, its ends projecting slightly on each side of the end of the clamp, thus forming a recess to fix its place. The upper binding-edges of the clamps are brought to fit on the upper outer corners of the blocks to gripe them and the rails down to seat on the clamps as the bolt is tightened.

To prevent the clamps from working forward on the converging lines of the frog the outer edges of the flanges of the wing-rails are cut and turned down in front of each clamp in the manner shown at D, Fig. 3, to form a shoulder or stop for the clamps to rest against.

The flange under the sharp end of the point-rail may be turned down to lock under the flanges of the wing-rails and in front of the clamp to give it firm position, and also to prevent its being withdrawn by any "creeping" of the track.

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

1. In a clamped rail frog, the wedge-shape blocks A B, having their contiguous faces C inclined inward, in combination with a longitudinal tightening-bolt, as shown and described, for the purposes specified.

2. In a clamped rail-frog, the shoulders on the bottom flange of the wing-rails, as shown at D, Fig. 3, and described, for the purpose specified.

3. The combination, in a rail-frog, of the clamps with wedge-blocks having inwardly-inclined faces drawn together with longitudinal bolts, with the notched bent edges of the rail-flanges, as shown and described, and for the purposes specified.

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Witnesses:
EDWARD K. HILL,
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