(No Model.)

D. B. HICKS.

RAILWAY RAIL JOINT.

No. 267,429. Patented Nov. 14, 1882.

Fig. 1.

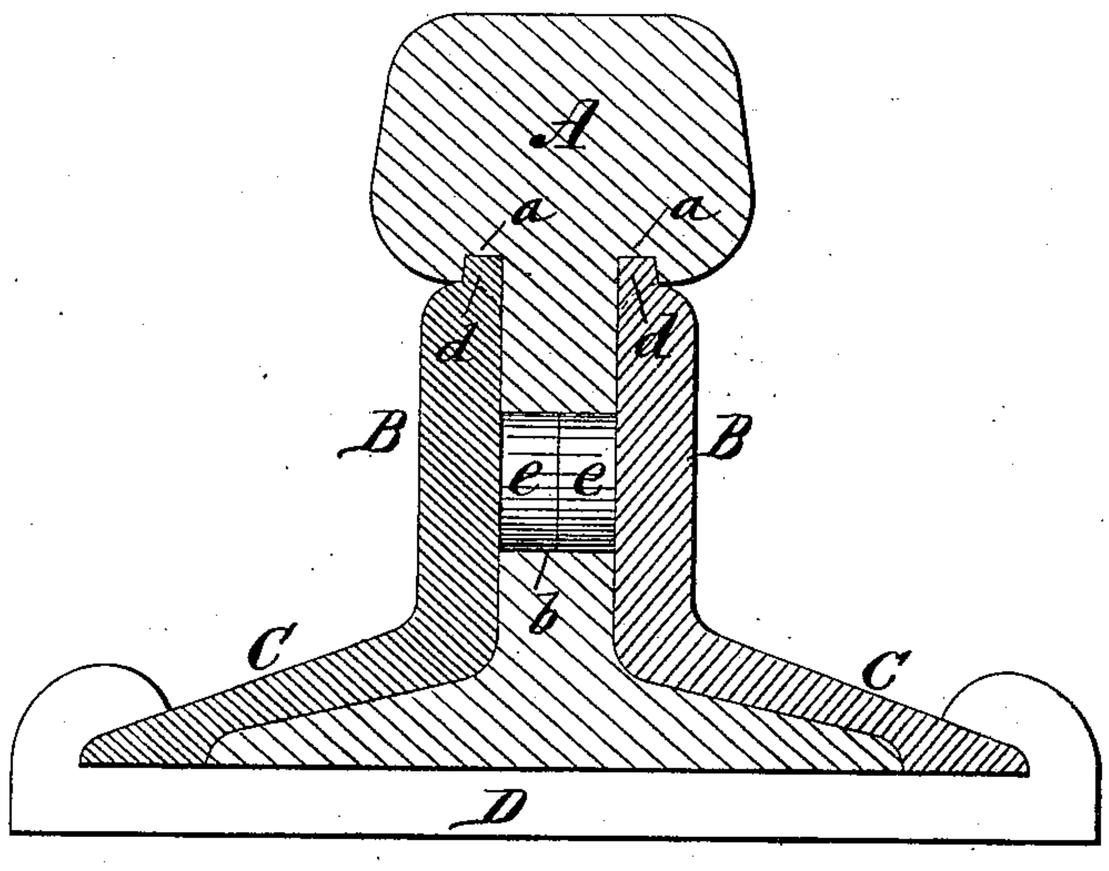


Fig. 2.

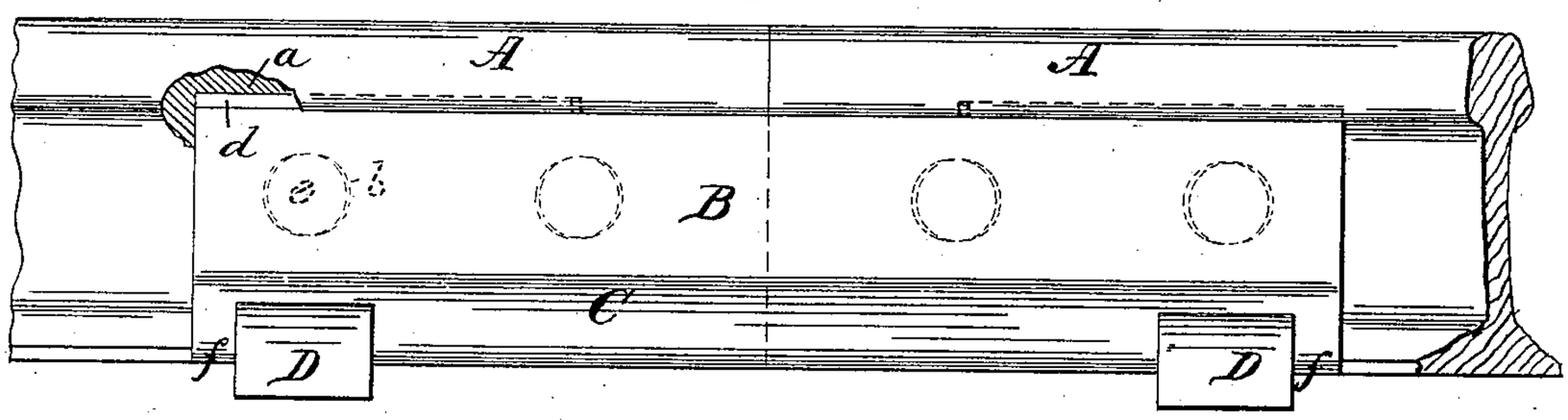
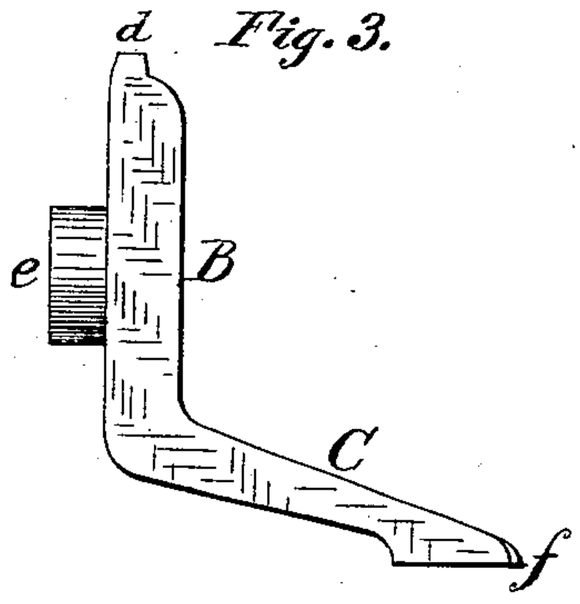


Fig. 3.



Witnesses:—
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UNITED STATES PATENT OFFICE.

DANIEL B. HICKS, OF PITTSBURG, PENNSYLVANIA.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 267,429, dated November 14, 1882.

Application filed August 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. HICKS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Rail Joints; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a transverse section of my improved joint, taken through one of the usual bolt-holes of the rail. Fig. 2 is a side elevation of the joint, and Fig. 3 is an end view of one of the fish-plates.

This invention relates to the construction of railway-rail joints; and it consists in the arrangement and combination of parts hereinafter fully described and claimed. The object is to dispense with all bolts and nuts, which, by becoming loose, are a constant source of trouble and danger.

I take the ordinary rail, A, and on each side, under the head and a short distance back from the end, I cut out a groove or recess, *a*, or several short indentations. The rail A has the usual bolt-holes, *b*, made oval to permit the expansive and contractile movement of the rail. I use an angle-bar for the fish-plate. This consists of the web B and lateral flange C, fitted to the flange of the rail, so as to extend down over the edge of the rail-flange at *c*, Figs. 1 and 3. Web B at its upper edge is formed with the lips or projections *d*, corresponding with the recesses *a* of two adjacent rails A A, but sufficiently shorter than said recesses to allow the expansive and contractile movement of the rail, as indicated by dotted lines in Fig. 2. Each fish-plate or angle-bar B has on its inner face the studs *e*, corresponding to the bolt-holes in two adjacent rail ends, and about long enough to penetrate the rail-web. I prefer to have them long enough to reach the middle, but less will do. The edges of the angle-bars B C are beveled off lengthwise, as at *f*, Fig. 3. The angle-bars are applied to the rails by first inserting the lips *d* into the recesses *a*, under the head of the rails, while the bar is tilted upwardly. Then the bars B are pushed inwardly against the rails, the studs *e* entering the bolt-holes *b*, after which a clamp-bar, D, fitted to embrace the lower edges of the flanges C, is driven on the incline *f* at each end of the angle-bar, thus securing all the parts tightly together, and forming a stiff but elastic rail-joint without bolts or nuts. Spikes may be driven into the ties at suitable points of the joint to prevent "creeping" of the rails. Though so firm and secure, the devices of the joint are easily detached without injury by simply driving off the clamps D.

The studs *e* may be riveted or welded in place on the bars B, or they may be formed in the process of rolling the bars.

The clamps D may be wrought into shape on a former, or rolled and cut, or they may be of malleable cast-iron or steel. A single wide clamp-bar may be used instead of two.

I claim as my invention—

In a railway-rail joint the rails A A, each having one or more recesses or slots, *a*, on both sides, and the apertures *b* in the web, in combination with the angle-bars B C, having studs *e*, lips *d*, and inclines *f*, and one or more clamps, D, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DANIEL B. HICKS.

Witnesses:

T. J. MCTIGHE,

D. E. DAVIS.