T. RODES.

Railway Rail-Joints.

No. 143,533. Patented Oct. 7, 1873.

Fig 1.

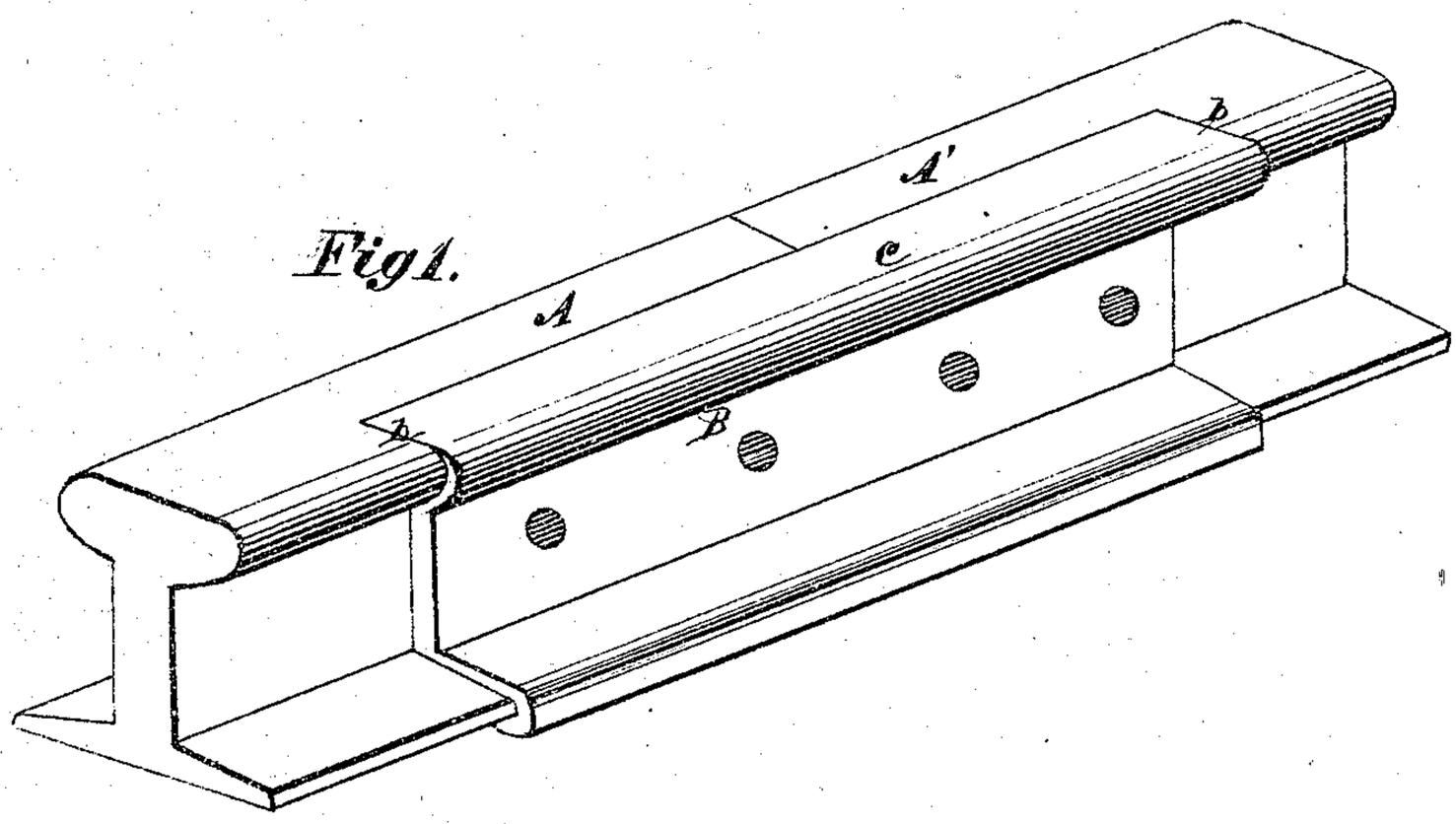


Fig 2

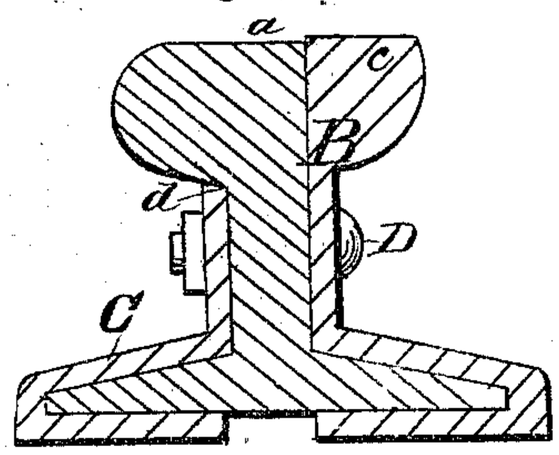
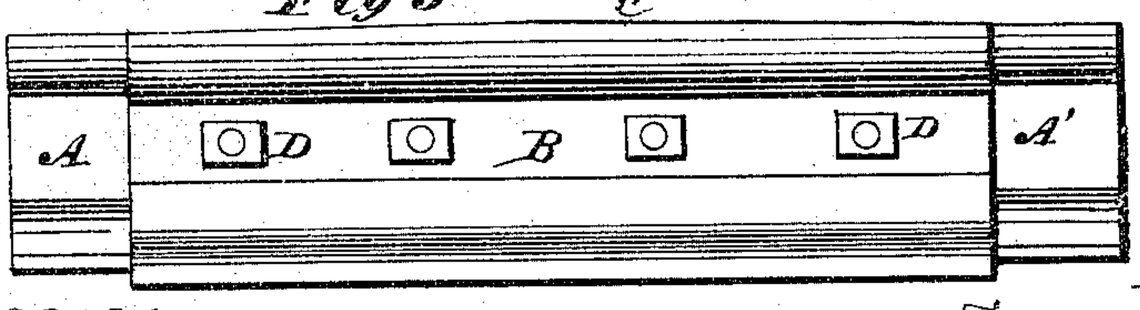


Fig 3



Witnesses;
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UNITED STATES PATENT OFFICE.

TYREE RODES, OF PULASKI, TENNESSEE.

IMPROVEMENT IN RAILWAY-RAIL JOINTS.

Specification forming part of Letters Patent No. **143,533**, dated October 7, 1873; application filed August 29, 1873.

To all whom it may concern:

Be it known that I, TYREE RODES, of Pulaski, in the county of Giles and State of Tennessee, have invented a new and useful Improvement in Railway-Rail Joints; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The invention is a railway-rail joint designed to hold two rails from vertical or lateral flexure, and at the same time to prevent the battering of the ends of the rails by the rolling-stock; and it consists in fish-plates of peculiar construction combined with rails having a portion of the head cut away, all as more fully hereinafter explained.

To enable those skilled in the art to construct and employ my contrivance, I will proceed to describe the same in connection with the drawings belonging thereto, in which—

Figure 1 is a perspective view, showing the principal fish-plate. Fig. 2 is a vertical cross-section of a railway-rail with my contrivance upon it, and Fig. 3 is a side elevation of the principal fish-plate secured to the rails.

Like letters denote corresponding parts in each figure.

A A′ are two ordinary T-rails, out of the heads *a* of which are cut away portions *b* near the end, of a length about equal to half the length of the fish-plates B, hereinafter described, and in a vertical horizontal line corresponding with the line of the web of the rail. The fish-plate B, which fits to the ends of rails in the sides thus cut away, is made of proper wrought metal, and fits closely over, around, and under the feet of the rail and to the web of the same, and extends up through the cut-away portion, having a head, *c*, in shape like one-half of the head of the rail divided longitudinally and vertically, which head *c* corresponds at its ends with the line of the top of the rails A A′, but curves upward regularly to its center, which is opposite the point of contact of the two rails, at which point it is a little above the tops of such rails. A fish-plate, C, intended to be used on the opposite sides of the rails, fits closely to the web of the rails on that side, and over, around, and under the feet of the rails, and has its suitably-beveled top, *d*, resting against the under side of the heads of the rails. These fish-plates can be rolled in rolling-mills.

Ordinary screw-bolts D with nuts pass through openings in both fish-plates and rails, and serve to hold them all in place.

In the use of my contrivance, which is intended for a suspension-joint, it will be found necessary to slip the fish-plate B over the end of one rail and insert the end of the other rail, the fish-plate C being capable of insertion from the side in the usual way.

By my construction vertical stiffness is given to the joint by the vertical strength and position of the fish-plate B, which carries the weight of the rolling-stock over the point of junction of the rails, and should the rails yield so that the tread comes upon them, the vertical resistance of the fish-plate C becomes fully effectual.

The lateral flexure is provided against by the arching form of both fish-plates over and around the feet of the rails.

The battering of the ends of the rails is prevented by the top of the fish-plate B, which takes the tread at the ends of the rails. The same fish-plate, fitting into the recess *b* of the rails, prevents longitudinal movement or "running" of the rails, and the whole contrivance will give a very strong and durable joint, with the proper degree of elasticity to insure a smooth passage of the carriages.

Having thus described my railway-rail joint, its manner of use, and some of its advantages, what I claim as new therein and my invention is—

In combination with the rails A A′, cut away at *b b*, as shown, the fish-plate B, adapted to grasp the feet of the rail, to support the web, and fill the recess formed in the rail by cutting away at *b b*, and the plate C, adapted to grasp the feet of the rails and support the web, as described.

This specification signed and witnessed this 26th day of August, 1873.

TYREE RODES.

Witnesses:

WILLIAM H. MCCALLUM,

JAMES M. EZELL.