

No. 848,397.

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G. J. RICHARDSON.

RAIL JOINT.

APPLICATION FILED SEPT. 1, 1906.

Fig. 1.

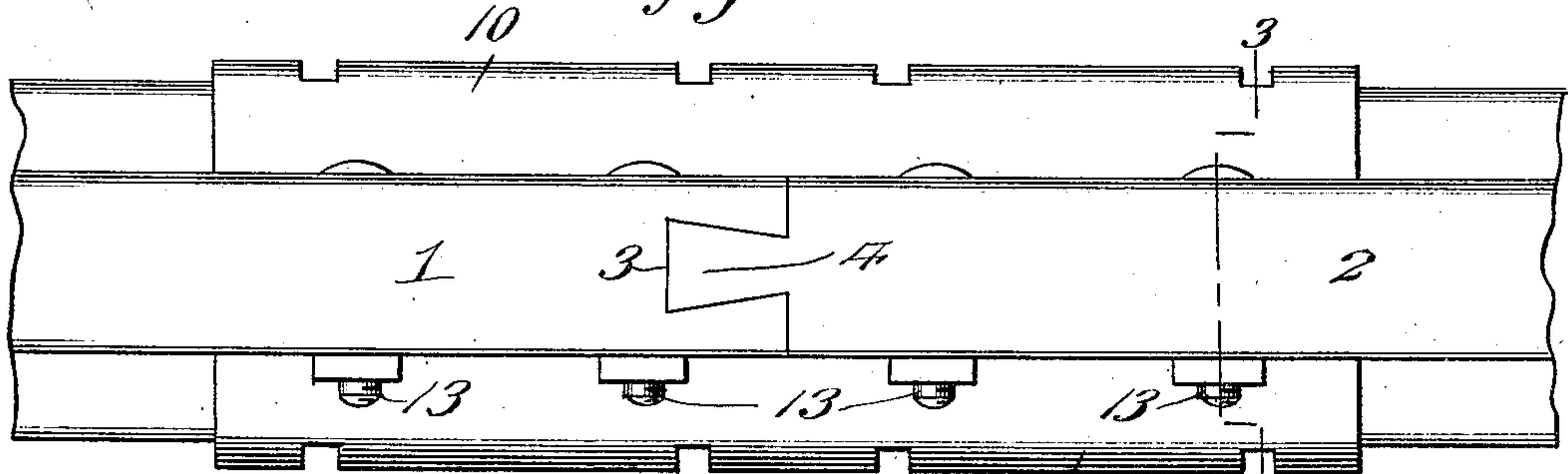


Fig. 2.

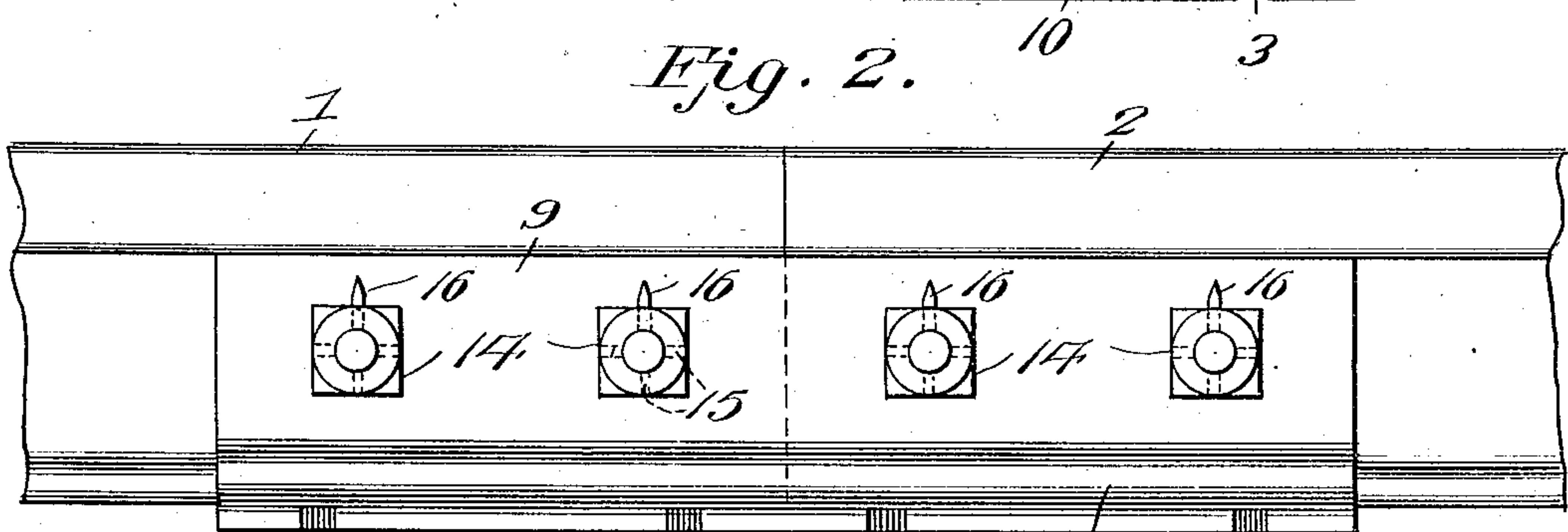


Fig. 3.

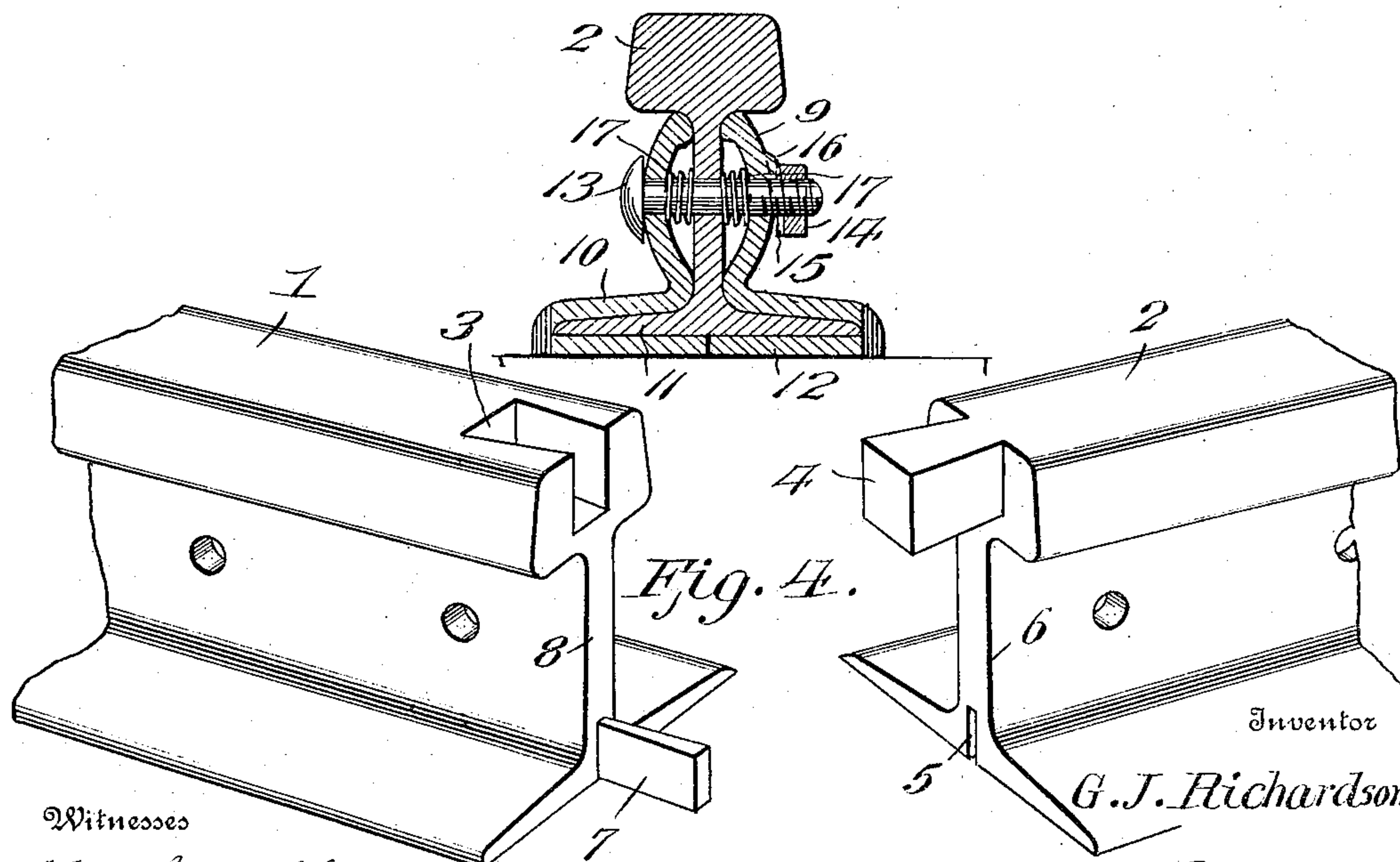


Fig. 4.

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RAIL-JOINT.

No. 848,397

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE J. RICHARDSON, a citizen of the United States, residing at West Charleston, in the county of Kanawha and State of West Virginia, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to joints for railway-rails; and it has for its object to provide a joint for the abutting ends of the rails whereby the rails shall be securely connected against displacement either laterally or longitudinally and whereby a smooth and unbroken rail-surface shall be provided.

Other objects of the invention are to simplify and improve the construction and operation of the joint.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alteration, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a top plan view showing the abutting ends of two rails connected by the improved joint. Fig. 2 is a side elevation. Fig. 3 is a transverse sectional view taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a perspective view showing the two abutting rail ends separated.

Corresponding parts in the several figures are denoted by like characters of reference.

The abutting rail ends 1 and 2 are provided with interlocking dovetailed mortises and tenons, the end of one of the rails 1 being provided in the head thereof with a dovetailed mortise 3, adapted to receive a correspondingly-shaped tenon 4, projecting endwise from the head of the rail 2, while the latter is provided with a mortise 5, extending from its under surface upwardly into the web

6 for the reception of the dovetailed tenon 7, which projects from the web 8 of the rail 1. It will be readily seen that when the rails are arranged in longitudinal alinement by elevating the end of the rail 2 the tenons 7 and 4 may be placed in engagement with the mortises 5 and 3 and that when the rail ends are thus connected longitudinal displacement will be practically impossible, owing to the dovetailed configuration of the tenons and mortises.

For the purpose of binding the rail ends together and positively preventing disconnection thereof fish-plates 9 are provided, said fish-plates being channel-shaped, as clearly seen in Fig. 3 of the drawings, and provided with flanges 10, resting upon the rail-flanges 11 and having return-bends 12, which extend beneath the rail-flanges, so as to support the latter. The fish-plates and the rails are provided with registering apertures for the passage of the connecting-bolts 13, having nuts 14, which latter are provided with radial grooves 15 in their inner faces. The fish-plates, which are directly engaged by the nuts, are provided adjacent to the bolt-holes with lugs 16, adapted to engage the radial grooves in the inner faces of the nuts for the purpose of locking the latter in position. Springs 17 are placed upon the bolts between the fish-plates and the webs of the rails, the tendency of said springs being to force the fish-plates outwardly in order that the radial locking-grooves of the nuts shall not be accidentally disengaged from the locking-lugs 16.

From the foregoing description, taken in connection with the drawings hereto annexed the operation and advantages of this invention will be readily understood. The abutting rail ends may be readily connected by simply elevating the end of the rail having the tenon 4 projecting from the head thereof sufficiently to enable the said tenon and the tenon 7 of the opposing rail end to be placed in engagement with the mortises provided for their reception. The fish-plates are then placed in position and secured by means of the bolts and nuts, thus making an extremely durable and effective joint, which has the great advantage of presenting a smooth and unbroken surface or tread for the passage of the rolling-stock.

Having thus described the invention, what is claimed is—

5 In a rail-joint, abutting rail ends having interengaging dovetailed mortises and tenons, in combination with channel-shaped fish-plates having bolt-holes and locking-lugs adjacent thereto, bolts extending through the fish-plates and through the webs of the rails, nuts having radial grooves in their inner faces

for engagement with the locking-lugs, and 10 springs upon the bolts interposed between the rail-webs and the fish-plates.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. RICHARDSON.

Witnesses:

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