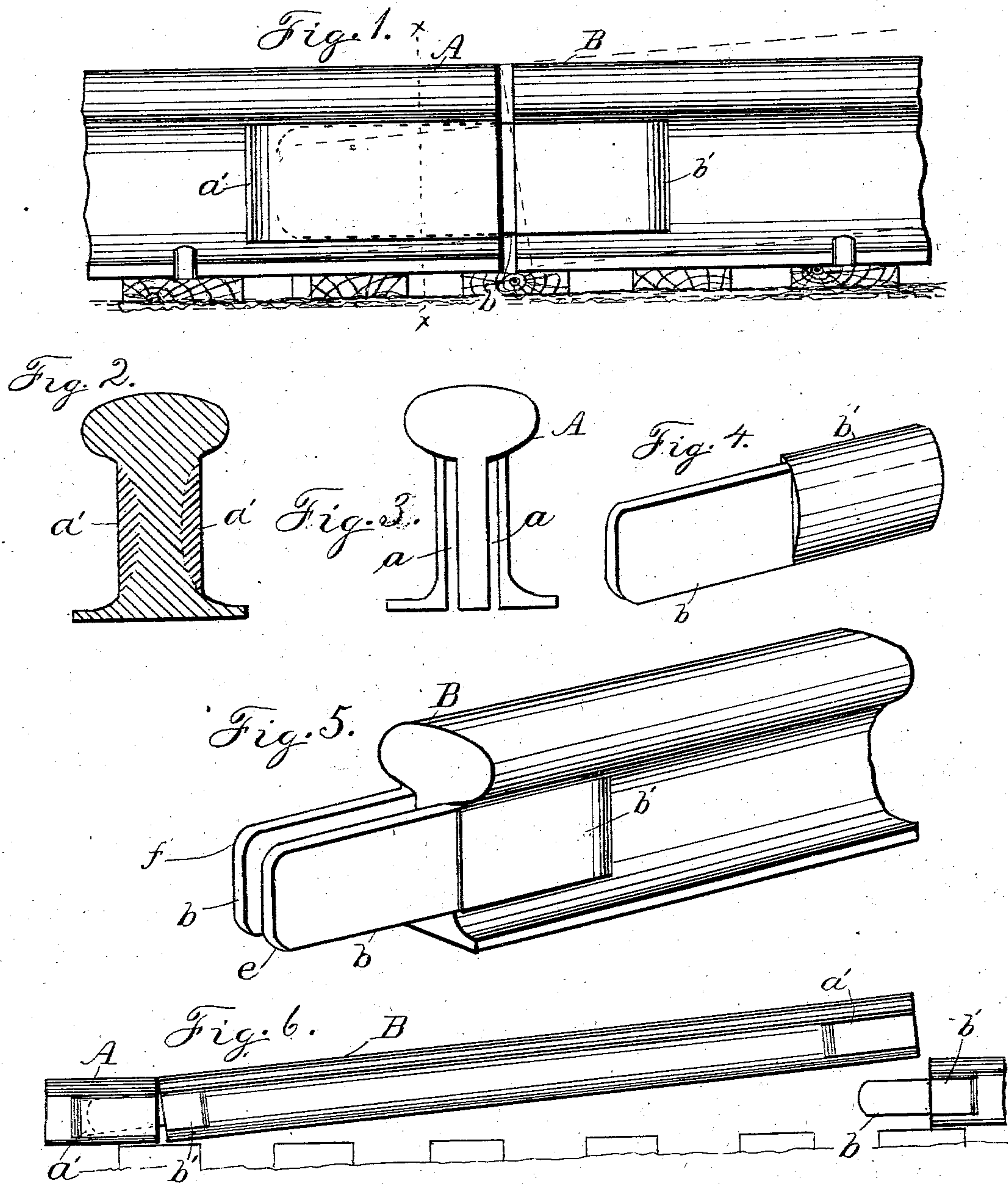


No. 730,522.

PATENTED JUNE 9, 1903.

J. S. DONOHUE.  
RAILWAY TRACK JOINT.  
APPLICATION FILED MAR. 12, 1903.

NO MODEL.



Witnesses  
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## UNITED STATES PATENT OFFICE.

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## RAILWAY-TRACK JOINT.

SPECIFICATION forming part of Letters Patent No. 730,522, dated June 9, 1903.

Application filed March 12, 1903. Serial No. 147,427. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES S. DONOHUE, a citizen of the United States, residing at Georgetown, in the city of Washington, District of Columbia, have invented certain new and useful Improvements in Railway-Track Joints, of which the following is a specification.

My improvement relates to joints for railway-track rails, and is designed to provide a strong, cheap, and easily-detached joint without the use of plates, bolts, or other separate parts, the means which constitute the joint being integral with the rails themselves.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of the ends of two rails jointed together, dotted lines indicating the position of one rail when being removed. Fig. 2 is a vertical cross-section on line *x x* of Fig. 1 before the plates are welded on and mortises cut. Fig. 3 is an end elevation of a mortised end of a rail. Fig. 4 is a detail of a tenon and its plate extension. Fig. 5 is a perspective of a tenoned end of a rail; and Fig. 6 is a reduced side elevation, showing one rail being removed.

The various features of the invention are referred to by letters, similar letters denoting corresponding parts in the several views.

The letter A indicates the mortised end of a railway-track rail, and B the tenoned end of a similar rail. Ordinarily each single rail is mortised at one end and tenoned at the other end.

*a a* indicate vertical longitudinal mortises in the rail A, and *b b* indicate the tenons on the end of the rail B. These tenons are approximately two-thirds of the height of the rail B and extend vertically from the bottom of the tread *c* to the top of the base-flange *d* and are adapted to loosely enter the mortises *a a* and permit the ends of the rails to be placed together. The tenons *b b* also have the outer ends of the lower edges rounded off at *e*, and sometimes the upper outer corner *f* is rounded, for reasons to be explained hereinafter.

In practice the tenons should be loose enough in the mortises and the ends of the rails separated sufficiently to allow for the expansion and contraction of these parts with the changes of temperature.

In laying a track a rail is first put in place having its mortised end outward to be connected to a rail with tenons. The tenoned rail is then laid on the ties and moved up until its tenons pass into the mortises of the other rail. This rail is then spiked fast, and to its outer mortised end another tenoned rail is jointed, and so the operation is continued. The rails are all spiked down to the ties in the usual manner. When a worn or broken rail is to be removed, its spikes are drawn from the ties, its mortised end is tilted or raised above the tread of the adjoining rail, and then it is moved lengthwise until its tenons are drawn out of their mortises, and is then entirely disconnected. Another rail is inserted by a reverse movement. The outer ends of the tenons are rounded off at their lower edges to permit the tilting of the rail just mentioned, and when the mortises *a a* are cut with a circular saw the upper corner of the tenons should also be rounded to be adapted to the curved end of the mortise. The rails may be made complete with my improvement on them or ordinary rails may be taken, and the extensions *b' b'* of the tenons having one side convex to fit against the side of the rail may be welded upon the rail. Likewise, the mortised end of the rail is thickened and strengthened by welding upon it the plates *a' a'*, which are adapted by their curved side to fit the curvature of the rail.

Having now described my invention and the manner of constructing it, what I claim, and desire to secure, is—

A railway-track joint comprising vertical longitudinal mortises extending from a point just below the tread of the rail downward entirely through the rail, vertical tenons on the opposite end of a rail adapted to enter said mortises, and extending from the bottom of the tread of the rail to the top of its base flange, substantially as herein set forth.

In testimony whereof I have signed my name to this specification in presence of two witnesses.

JAMES S. DONOHUE.

Witnesses:

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