

P. O. ADAMS.

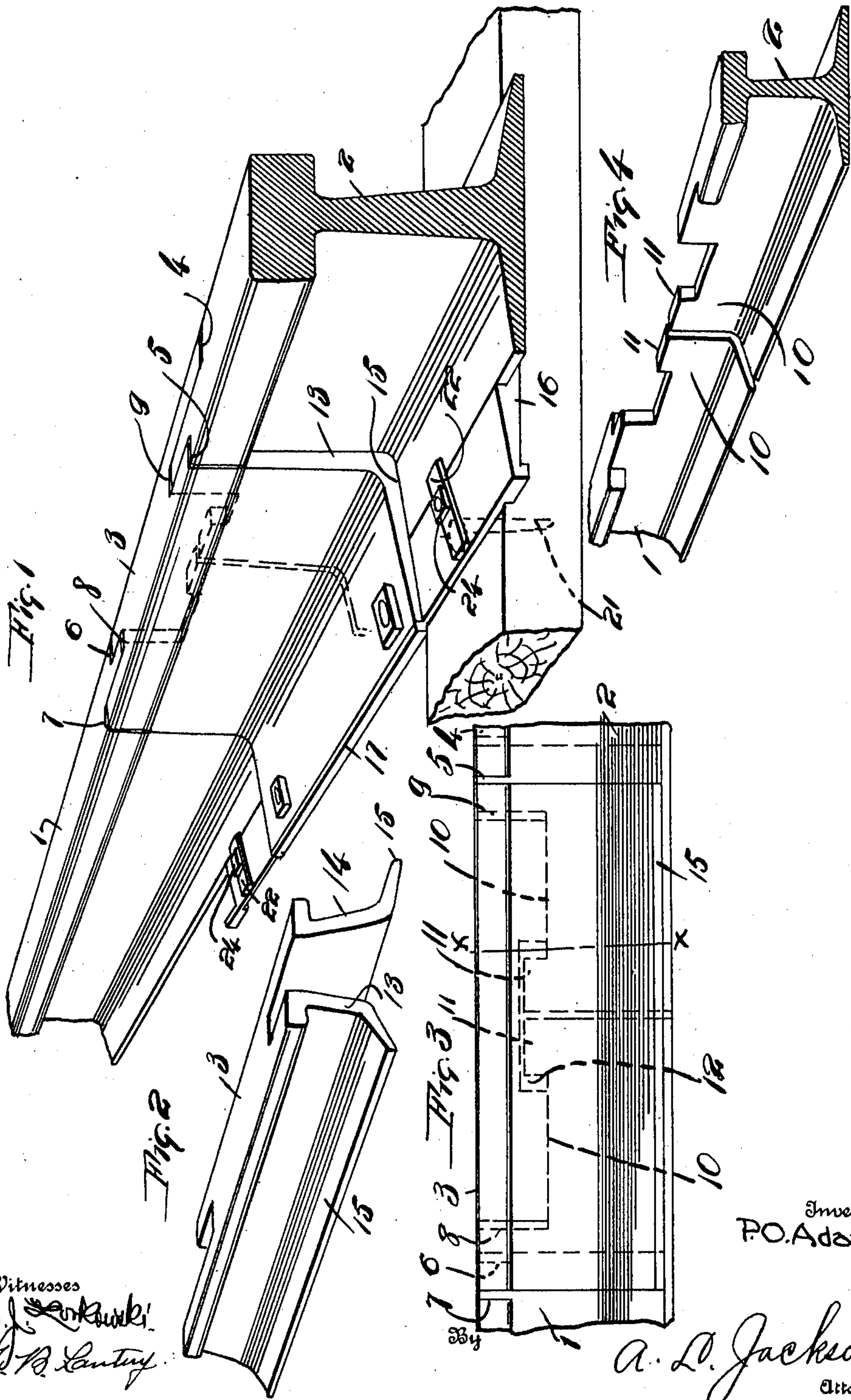
RAIL JOINT.

APPLICATION FILED JULY 9, 1909.

Patented Sept. 13, 1910.

2 SHEETS—SHEET 1.

970,159.



Witnesses
B. J. [Signature]
A. B. Lantry

Inventor,
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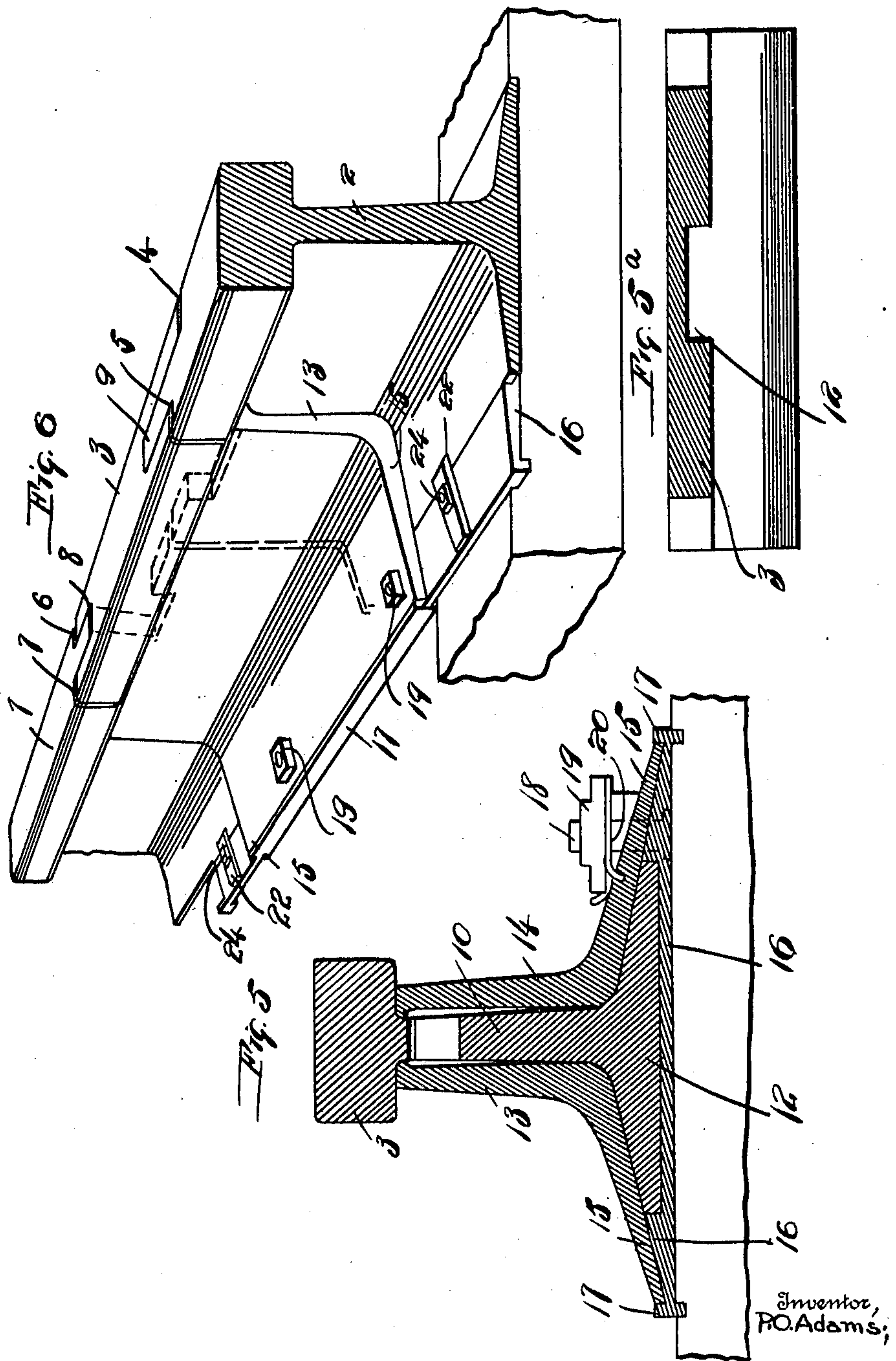
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Witnesses:
O. J. Runkel.
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UNITED STATES PATENT OFFICE.

POWELL ORGAIN ADAMS, OF CAMERON, TEXAS.

RAIL-JOINT.

970,159.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed July 9, 1909. Serial No. 506,746.

To all whom it may concern:

Be it known that I, POWELL ORGAIN ADAMS, a citizen of the United States, residing at Cameron, in the county of Milam and State of Texas, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and the object is to construct joints for railway rails which will provide a smooth tread for the wheels of a locomotive or a train of cars and which will make the joints as firm and rigid as any other parts of the rails and to provide locking devices to prevent displacement of the joints and to provide for expansion of the rails without weakening the rails and joint by bolt holes.

Another object is to construct such strong and durable joints that the cost of maintenance of the railway tracks will be much reduced, the necessity of repairs being much reduced.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a perspective view of a rail joint complete, constructed in accordance with my invention. Fig. 2 is a perspective view of the joint block. Fig. 3 is a side elevation of the joint block and the ends of two abutting rails. Fig. 4 is a perspective view of the ends of two abutting rails. Fig. 5 is a vertical section of a complete joint, the section of the joint block and one rail being taken along the line $x-x$ of Fig. 3. Fig. 5^a is a longitudinal section of the joint block. Fig. 6 is a perspective view of a complete joint, showing slight variation from the joint shown in Fig. 1.

Similar characters of reference are used to indicate the same parts throughout the several views.

Sections 1 and 2 of abutting rails are shown in the accompanying drawings. The contour of the ends of these rails is further shown in Fig. 3, together with a side elevation of the joint block. The joint block 3 forms a continuous tread between the ends of the abutting rails. The balls of the rails 1 and 2 terminate along the lines 4 and 5, 6 and 7, and 8 and 9. The joint block 3 has a longitudinal groove in the under side

thereof for receiving the web portions 10 of the abutting rails. The ball of the joint block 3 has an irregular contour to meet the irregular contours of the balls of the abutting rails. The object of the irregular meeting lines of the balls of the joint block and the abutting rails is to provide a continuous tread for the wheels. The wheel will be running on the ball of the joint block before it leaves the ball of the rail when approaching the joint and on leaving the joint the wheel will be running on the ball of the rail before it leaves the ball of the joint block. The joint block thus has portions of its ball lapping on portions of the balls of the abutting rails.

The webs and the bases of the abutting rails are of the usual construction, coming in close proximity to each other. The webs carry locking lugs 11 on the upper sides at their ends and the joint block 3 has a recess 12 in the under side thereof to receive the locking lugs. The locking lugs are not equal in extent as the recess 12, thus providing for expansion and contraction of the rails. The lugs 11 and the recess 12 provide a locking means to prevent displacement of the rails. The lapped portions of the joint block on the balls of the abutting rails are of greater extent than expansion and contraction are estimated to be. The wings 13 and 14 of the joint block receive the webs of the abutting rails and the flanges 15 rest on the flanges of the rails. Bed plates 16 are provided for supporting the rail joint. The bed plate 16 extends longitudinally under the rails and rests on two cross ties. The bed plate has a recess for receiving the bases of the rails and extend beyond the width of the rail bases and support the flanges 15 of the joint block. The outer edges of the base plate have flanges 17 projecting upwardly and downwardly. These flanges support the flanges 15 and add strength to the base plate. The flanges 17 are cut away at the points where the bed plate crosses the ties. This construction will prevent movement of the bed plate on the ties. Bolts 18 provided with nuts 19 and locks 20 for the bolts bind the bed plate to the flanges 15 and thus clamp the ends of the rails. Ordinary spikes 21 bind the bed plate to the cross ties. Cleats 22 are placed above the spikes 21 and secured to the bed plate flanges 16 by bolts and suitable nuts. The cleats 22 thus serve to hold the joint block in place and

prevents the removal of the spikes from the track.

The joint block in combination with the base plate provides a joint which will be rigid and will prevent the vibration of the ends of the abutting rails.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. The combination of the abutting ends of railway rails, a joint block, and a bed plate, said joint block having a ball intercepting the balls of said rails and having a longitudinal groove therein to receive the webs of said rails and having a recess intermediate the ends of said groove and said webs having lugs occupying said recess.

2. In a rail joint, the combination of the ends of abutting rails a joint block having a longitudinal groove in the underside thereof, and a bed plate secured to said joint block, said joint block having a ball intercepting the balls of the abutting rails along irregular lines and having a recess intermediate the ends of said groove and said rails having webs extending in said groove and lugs carried by said webs lying in said groove.

3. In a rail joint, the combination of the ends of abutting rails, a joint block having a longitudinal groove in the underside there-

of and having a ball intercepting the balls of said rails at different vertical planes, and a bed plate binding said joint block to said rails, said abutting rails having webs occupying said groove and carrying locking lugs on the upper sides of the ends of the webs and said joint block having a recess to receive said lugs.

4. In a rail joint, the combination of the ends of abutting rails, a joint block having a longitudinal groove in the underside thereof and a recess intermediate the ends of said groove and having a ball intercepting the balls of said abutting rails at different vertical planes, a bed plate having a seat for the bases of said rails and vertical flanges on the edges thereof for bracing said joint block, said rails having webs occupying said groove and said webs carrying locking lugs occupying said recess, bolts binding said block to said base plate, and cleats binding said rails to said base plate.

In testimony whereof, I set my hand in the presence of two witnesses, this 30th day of June, 1909.

POWELL ORGAIN ADAMS.

Witnesses:

S. D. TYRON,
A. W. TABER.