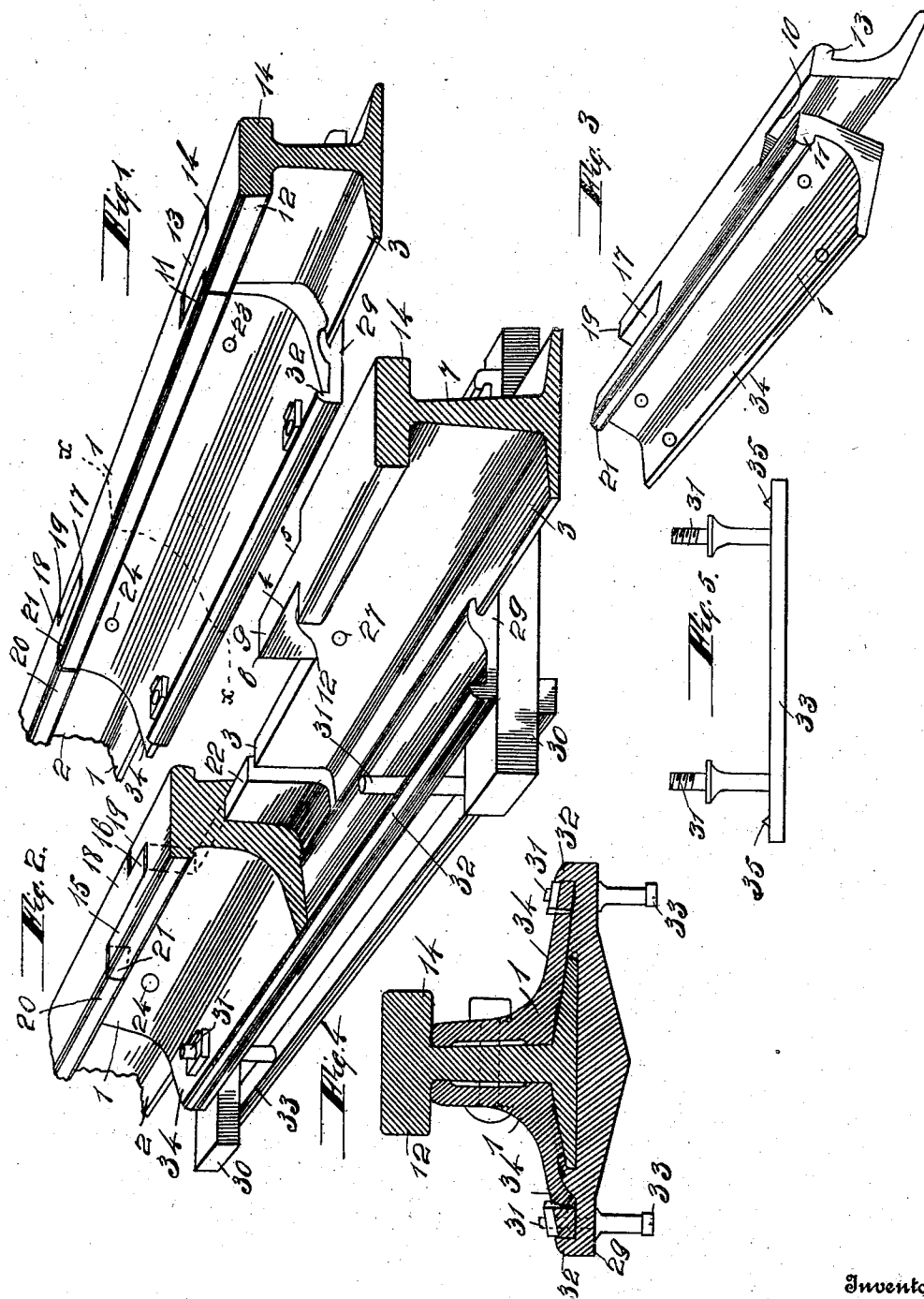


No. 877,279.

PATENTED JAN. 21, 1908.

P. O. ADAMS.
RAIL JOINT.

APPLICATION FILED JAN. 8, 1907.



Witnesses:

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UNITED STATES PATENT OFFICE.

POWELL O. ADAMS, OF CAMERON, TEXAS.

RAIL-JOINT.

No. 877,279.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed January 9, 1907. Serial No. 351,414.

To all whom it may concern:

Be it known that I, POWELL O. ADAMS, a citizen of the United States, residing at Cameron, county of Milam, 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 for railways, and the object is to construct joints for railway rails which will be strong and durable and simple in construction and particularly to construct joints which will present a smooth tread for the wheels of locomotives and trains.

On many tracks of railways there is a constant bumping of the wheels against the ends of rails and the cross ties adjacent to the joints often become loose because the joints yield downwards. One of the advantages of my invention is that this bumping of the wheels against the rail joints is avoided and the ties do not require ballasting so often.

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 specification and application.

Figure 1 is a perspective view of a rail-joint, showing the sections of two rails. Fig. 2 is a perspective view of the ends of two abutting rails prepared for my improved joints. Fig. 3 is a perspective view of the improved rail joint removed from the rails. Fig. 4 is a cross-section of the rail substantially along the line *xx* of Fig. 1, showing the manner of bolting the joint to the rail and the manner of fastening the joint to the cross-tie. Fig. 5 is a side elevation of the brace and bolts for clamping the rail-joint and its brace to the ends of the abutting rails and for binding the joint to the cross-ties.

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

The improved joint is formed of a single piece of metal, and is adapted to engage the ends of the abutting rails 2 and 3. The rail 3 is cut away at 4 and 5, and has the entire ball cut away at 6, and a part of the web 7 is cut away at 8. This rail 3 has the flange cut away more on the side 5 than on the side 4. The part 9 of the rail is received in the groove 10 of the rail-joint. The flange 11

of the rail-joint 1 abuts against the flange 12 of the rail. The flange 13 of the rail-joint abuts against the flange 14. The groove 10 in the rail joint conforms in shape to the shape of the end of the rail 3. The rail 2 is cut away at 15 and 16. The part of the ball 16, which is not cut away, fills the groove 17 in the rail-joint. The shoulder 18 abuts against the shoulder 19. The shoulder 20 abuts against the shoulder 21 of the rail-joint. The web 8 of the rail 3 and the web 22 of the rail 2, being partly cut away, abut in the groove in the under side of the rail-joint 1. Attention is called to the fact that the shoulders 12 and 14 and 20 and 18 are not opposite each other, but are offset each relative to the other. The advantage of this construction is to prevent the joint from being weak and causing a bumping of the rails. A wheel would pass over the juncture of the shoulders 13 and 14 before it would pass over the juncture of the shoulders 11 and 12. When the wheel passes over the joint 1, the wheel would pass over the juncture of the shoulders 18 and 19 before it would pass over the juncture of the shoulders 20 and 21. The juncture of the part 9 of the rail ball with the rail joint is located at a different point from the joints 11 and 12, and 13 and 14. The juncture of the part of the rail ball 16 is at a different point from the juncture of the parts 18 and 19, and 20 and 21. The rail joint is secured to the ends of the abutting shoulders by means of bolts 23, and 24. The bolts 23 and 24 will hold the joints and abutting rail securely together. The rail 3 has holes 27 for the bolts 23. The rail 2 has holes for the bolts 24. The rail joint is made rigid with the track.

The rail-joint 1 is secured to the ties in the following manner: Iron braces 29 are secured to the cross-ties 30 by means of bolts 31. These braces 29 have upward projecting flanges 32, and are set in recesses in the cross-ties. The braces are thus held securely against lateral motion. The bolts 31 project up through the flanges 34 of the rail-joint. The rail-joint is thus secured permanently to the ends of the abutting rails, and by means of bolts 31 the rail-joint clamps the rails to the braces 29 and to the rail tie 30. It will be noticed that the rail-joint 1 takes the place of a part of the ball of each rail, and that the rail-joint is made of a single piece of metal, and having grooves in the under side and ends to engage the

ends of the abutting rails when the ends of these rails have been prepared, as shown in Fig. 2.

The rail-joint is clamped on the ends of the abutting rails by means of the brace 29 and bolts 31. The braces 29 have seats for the bases of the rails. The bolts 31 may be formed integral with the bar 33 which projects under the ties 30. The bar 33 has upwardly projecting spikes 35 which engage the under side of the cross-ties 30.

Various changes may be made in the length and proportions of the improved joint without departing from my invention.

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

1. In a rail joint for railway rails comprising the ends of two abutting rails and a block of metal having recesses in each end thereof and a groove in the under side, each of said rails having a portion of its ball cut away and portions of the flanges of its ball cut away whereby the reduced portions of said balls are received in the recesses in said block of metal.

2. A rail joint for railway rails comprising the ends of two abutting rails and a block of metal having generally the shape of railway rails with recesses in the balls of each end thereof, each abutting rail having a portion of its ball cut away and the flanges of a further portion of its ball cut away to form a juncture with said block of metal, said block of metal having a groove in the underside to

receive the ends of the abutting webs of said rails.

3. A rail joint for railway rails comprising the ends of two abutting rails and a block of metal having generally the shape of railway rails with recesses in the balls of each end thereof, each abutting rail having a portion of its ball cut away and the flanges of a further portion of its ball cut away to form a juncture with said block of metal, the juncture of the flanges of said block at each end with flanges at one side of said rails being off-set relative to the juncture of the flanges on the opposite side of said rails, said block of metal having a groove in the underside to receive the abutting webs of said rails.

4. A rail joint for railway rails comprising the ends of two abutting rails, a block of metal having recesses in each end thereof and a groove in the underside, each of said rails having a portion of its ball cut away and portions of the flanges of its ball cut away whereby the reduced portions of said balls are received in the recesses in said block of metal, and a brace having a seat therein for clamping said block of metal and the ends of the rails together.

In testimony whereof, I set my hand in the presence of two witnesses, this 3rd day of October, 1906.

POWELL O. ADAMS.

Witnesses:

A. L. JACKSON

E. WALLINGTON.