

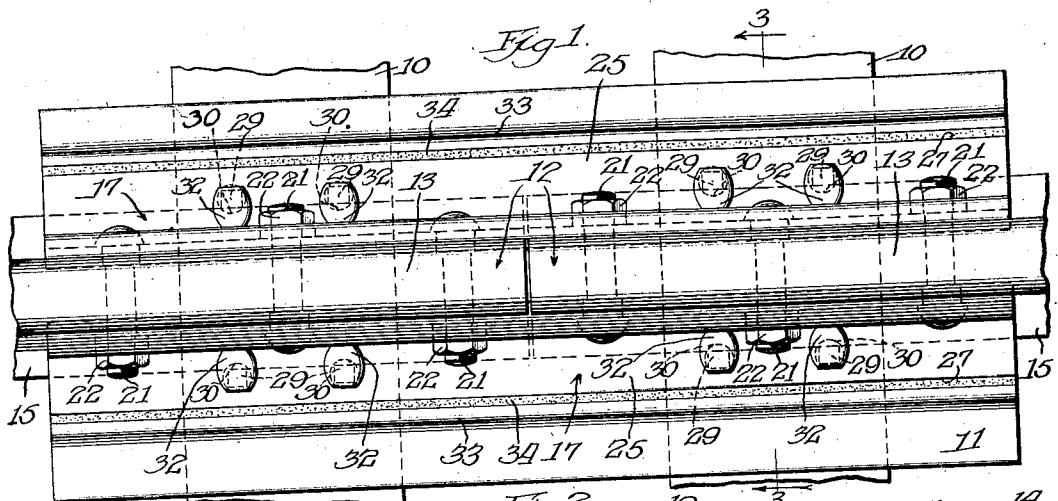
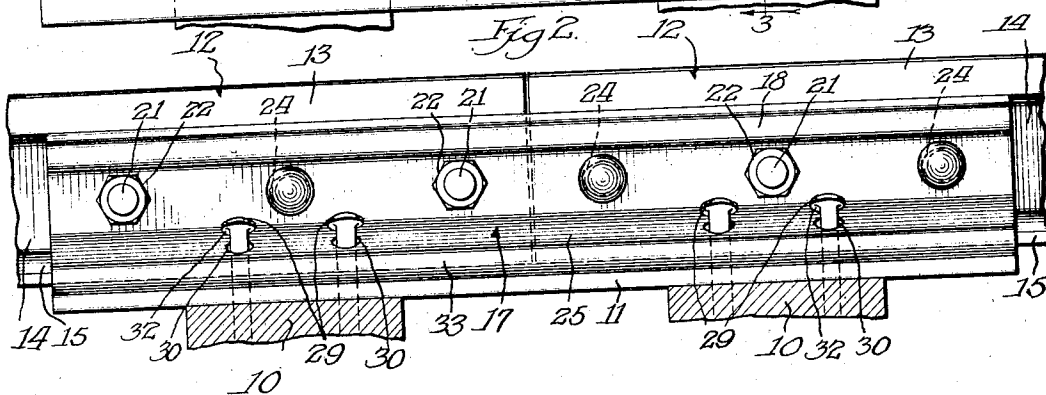
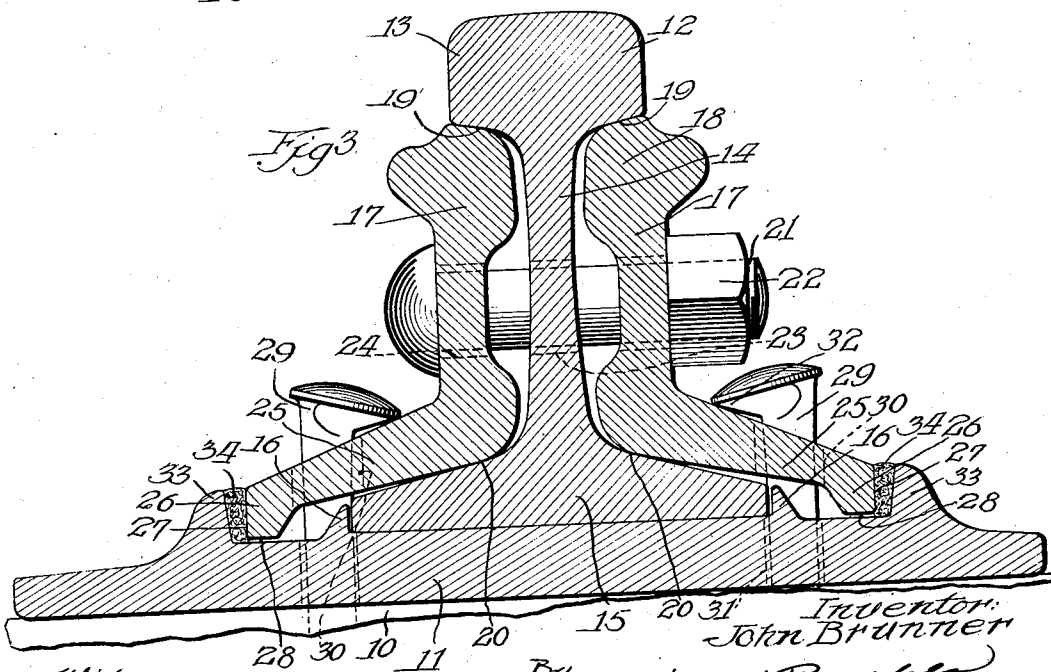
Aug. 4, 1931.

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1,817,733

RAIL JOINT

Filed Sept. 11, 1929



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UNITED STATES PATENT OFFICE

JOHN BRUNNER, OF CHICAGO, ILLINOIS

RAIL JOINT

Application filed September 11, 1929. Serial No. 391,786.

This invention relates to improvements in rail joints of the type in which a pair of rails seat upon a tie plate and are secured together by splice bars.

5 It is an object of the present invention to provide a rail joint in which a splice bar which is bolted to the rail is securely held to the tie plate by a welded joint.

10 It is further an object of the present invention to provide an improved rail joint in which a pair of splice bars which connect the adjoining ends of a pair of rails are bolted or otherwise secured to the rails and finally welded joints are formed between the toes 15 of the splice bars and projecting shoulders of the tie plate thereby providing additional strength in the connection and preventing rotating movement of the splice bars due to torsional stresses.

20 Further and additional objects will be more readily apparent from the following description in connection with the attached drawings in which—

Figure 1 is a plan view of my improved 25 rail joint;

Figure 2 is a side elevation of Figure 1, showing portions of the ties in section, and

Figure 3 is a transverse section through the rail joint on the plan indicated by 3—3 30 in Figure 1.

In the drawings, 10—10 are ties or sleepers upon which seats a tie plate 11. The tie plate 11 provides a chair or rest for the ends of rails 12—12. Each of the rails is 35 of the usual shape including a head 13, web 14 and a base 15. The base 15 of the rail seats on the tie plate 11 between projections 16—16 integrally formed with the tie plate. The projections 16 prevent lateral displacement of the rails.

In order to connect adjoining ends of a pair of rails it is customary to employ angle bars or splice bars and I have here shown a pair of angle bars which are drawn into engagement with opposite sides of the rails. 45 The upper portion of each of the splice bars as at 18, is enlarged to provide strength and bears against the inclined lower faces of the rail head 13 in the manner indicated at 50 19—19. The lower rounded corners of the

angle bars bear against the inclined upper surfaces of the rail bases as indicated at 20—20.

The splice bars are secured to the rails by means of bolts 21 fastened by nuts 22. 55 Suitable bolt receiving openings 23 are formed in the rails and are lined up with bolt openings 24 formed in the splice bars. It will be noted that the bolt openings 23—24 are somewhat larger than the diameter of 60 the bolts thereby permitting tight engagement between the splice bars and rails. The splice bars include depending angular flanges 25 which are provided at their outer and lower ends with integral toes 26 having 65 vertical faces 27 and horizontal lower faces 28.

It will be apparent that after the angle bars are drawn into tight engagement with the rails by securing the bolts 21 that the 70 toes 26 will be lifted slightly from contact with the tie plate. The angle bars are held to the tie plate by the usual spikes 29 which extend through spike openings 30 in the angle bars, through openings 31 in the tie 75 plate and into the wood of the ties. The spikes 29 have heads 32 which engage the upper faces of the flanges 25, of the angle bars and securely hold the rails to the ties.

But it will be obvious that some means 80 should be provided to prevent rotation of the angle bars due to torsional stresses which are liable to loosen the spikes. Therefore, the improvements in the present invention consist in providing welded joints between the 85 angle bars and the tie plate after the angle bars have been drawn to the desired positions relative to the tie plate.

A preferred embodiment consists in providing integral shoulders 33 upwardly extending from the tie plate and parallel to the rail holding projections 16. The inner faces of the projections 33 are slightly inclined. The spaces between the inclined inner faces of the tie plate projections 33 and the angle 90 bar toes 26 are filled by welds of metal 34. The welded joint between the angle bars and the tie plate efficiently prevents rotation through the torsional stresses and provides increased strength of the entire joint. 100

As described, a preferred manner of forming the joint consists in first bolting the angle bars to the rails and subsequently welding the toes of the angle bars to the tie plate but it will be clearly apparent that the joint may be formed in other ways such as by welding the joint in the shop by pressing the angle bars against a mandril having the shape of a rail.

Although I have described a preferred embodiment of my invention, it will be apparent that changes and modifications may be resorted to without departing from the spirit of my invention as expressed in the appended claims.

I claim:

1. A rail joint comprising a tie plate, a rail seating on said tie plate, projections from said tie plate preventing lateral movement of said rail, splice bars including inclined faces drawn into engagement with the head and base of said rail by being bolted thereto and welded joints between the toes of said splice bars and said tie plate.
2. A rail joint comprising a tie plate, rails seating on said tie plate, projections on said tie plate preventing lateral displacement of said rails, angle bars bolted to said rails, said angle bars including depending toes having the lower horizontal faces separated from said tie plate, shoulders upstanding from said tie plate and welded joints between said shoulders and said toes, said welded joints extending the length of said tie plate.

Signed at Chicago, Illinois, this 3rd day of September, 1929.

JOHN BRUNNER.