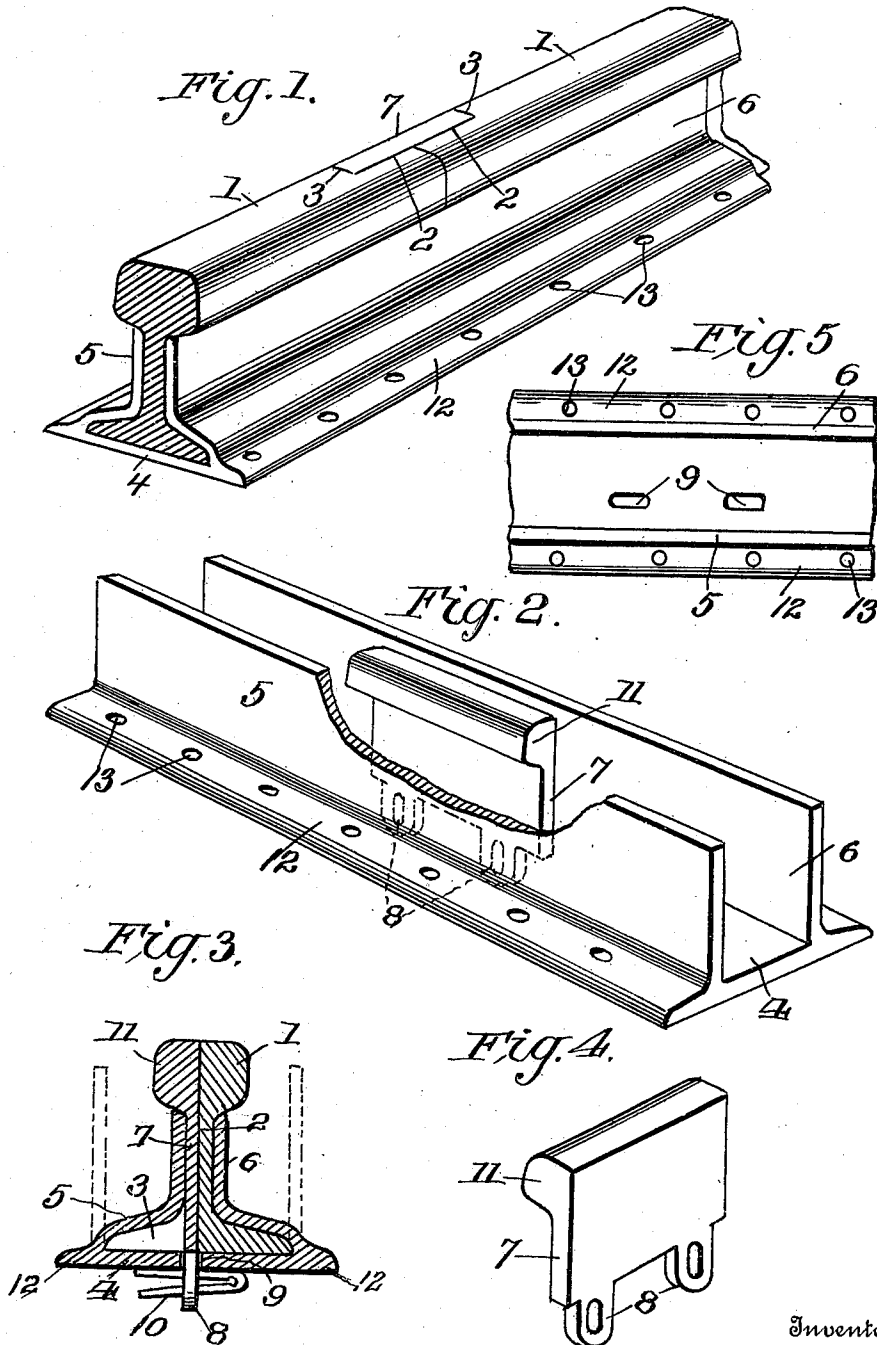


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RAIL JOINT.
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977,743.

Patented Dec. 6, 1910.



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WILLIAM F. JOHNSON, OF BASIN, WYOMING.

RAIL-JOINT.

977,743.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM F. JOHNSON, citizen of the United States, residing at Basin, in the county of Bighorn and State of Wyoming, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

The present invention comprehends certain new and useful improvements in rail joints, and relates particularly to the improved joint described and claimed in my application Serial No. 536,861, allowed May 25, 1910.

The object of the invention is an improved chair provided between its side plates with an abutment which is designed to be received in seating recesses in the meeting ends of the companion rail sections and is adapted to lie flush with the tread surface of the rail, the abutment being separate from the main portion of the chair and being detachably held in place so as to be capable of being conveniently removed to facilitate the application of the chair to the rail sections.

A further object of the invention is a chair of this character which possesses to a marked degree the characteristics of simplicity, durability and strength, and which may be easily and cheaply manufactured, the abutment being susceptible of being replaced by a new part, when worn out, whereby to decrease materially the cost of maintenance of the track.

With these and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features of in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a sectional perspective view of a rail joint constructed in accordance with my invention; Fig. 2 is a perspective view of the chair, detached; Fig. 3 is a transverse

section of the joint; Fig. 4 is a detail perspective view of the abutment; and, Fig. 5 is a fragmentary top plan view of the chair.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

For the purpose of illustration the present invention is shown and described in connection with a pair of companion rail sections 1 which are of conventional form, except at their meeting ends where their heads, base flanges and webs are cut-away on one side flush with the median line of the rail, to provide similar seating recesses 2. The recesses terminate in opposing shoulders 3. The meeting ends of the rail sections are supported upon the base plate 4 of a chair. Bendable side plates 5 and 6 are integral with the base plate and upstand longitudinally therefrom on opposite sides of the rail sections, the side plates being initially disposed substantially perpendicularly to the base plate.

Mounted upon the base between the side plates is a separate abutment 7 which extends longitudinally and spans the joint between the rail sections. The abutment is preferably located midway between the ends of the chair and is received in the seating recesses 2, the outer face of the abutment being flush with the adjacent face of the web of the rail and being spaced apart from the adjacent side plate 5 in the initial position of the same. At its lower edge the abutment is formed with depending apertured ears 8 which project downwardly through suitable openings 9 in the base plate 4, cotter pins 10 or the like being inserted through the ears and bearing against the lower surface of the base plate to hold the ears against withdrawal. It is to be understood, however, that any other suitable means may be employed for removably securing the abutment in place. The abutment extends upwardly above the adjacent side plate 5 and has its upper edge flush with the upper surfaces of the heads of the rail sections, whereby to provide a continuous tread surface. By virtue of this arrangement the disagreeable and injurious

pounding of the wheels of the rolling stock as they pass over the joint, is effectually precluded. A laterally projecting flange 11 is formed along the upper edge of the abutment and conforms to the contour of the adjacent overhanging portions of the heads of the rail sections in order to preserve the uniform width of the tread surface. The ends of the abutment are designed to impinge against the shoulders 3 for the purpose of limiting the longitudinal movement of the rail sections in the chair.

The side plates 5 and 6 are adapted to be bent inwardly to conform to the contour of the sides of the rail sections and to lie snugly thereagainst with their upper edges fitting under the overhanging portions of the heads. The middle portion of the side plate 5 bears, in this position, against the outer face of the abutment and fits under the laterally projecting flange 11, whereby to materially reinforce the abutment against both lateral and vertical strains. By bending the side plates in this manner the rail sections are effectually gripped to the chair and are positively held against both vertical and lateral displacement, without the use of bolts or like separate fastening devices which have been found so objectionable in practice.

It is to be observed that the rail sections have a limited independent longitudinal movement in the chair so as to be free to compensate for expansion and contraction.

The base is extended laterally outwardly beyond the side plates to constitute attaching flanges 12 that are perforated, as indicated at 13, for the reception of spikes which secure the chair to the cross ties.

In practice, when applying the invention to the rail sections the pins 10 are withdrawn from the ears and the abutment is removed from the chair. The chair is then slipped longitudinally on one of the rail sections so as not to project beyond the meeting end thereof. After the meeting end of this section has been placed in alignment with the meeting end of the companion rail section, the chair is slid longitudinally to span the joint. The abutment is then placed in the seating recesses and attached to the base plate 4. The application of the chair to the rail sections is entirely completed by bending the side plates against the rail sections, as hereinbefore described. It will be apparent that by having the abutment removable, the assembling of the parts is considerably facilitated. Furthermore, the abutment may be easily and quickly removed and replaced by a new part, when worn out.

Having thus described the invention, what I claim is:

1. A rail chair including a base, opposed

side plates upstanding from and integral with the base and adapted to be bent to fit against the sides of the rail, an abutment separate from the base and the side plates, and means for removably securing the abutment upon the base between the side plates.

2. A rail chair including a base formed with an opening, opposed side plates upstanding from the base, an abutment separate from the base and the side plates and mounted upon the former between the latter, the abutment having an apertured ear depending through the opening, and a pin inserted in the ear to removably secure the abutment in place.

3. A rail chair including a base, side plates upstanding from the base, and an abutment upstanding from the base between the side plates, one of the side plates being separate from the abutment and being adapted to be bent inwardly to fit against the rail and to bear against the adjacent side of the abutment to brace the same against lateral strain.

4. A rail chair including a base, opposed side plates upstanding from the base, an abutment separate from the base and the side plates and positioned upon the former between the latter, and means for removably securing the abutment in place, the abutment projecting upwardly above the side plates and being formed along its upper edge with a laterally projecting flange overhanging and bearing upon the upper edge of one of the side plates.

5. A rail chair including a base, opposed side plates upstanding from the base, and an abutment upstanding from the base between the side plates and formed on one side with a laterally projecting flange, the side plate adjacent to said flange being separate from the abutment and being adapted to be bent inwardly to fit against the rail and to bear against said side of the abutment and beneath the flange thereof, whereby to brace the abutment against lateral and vertical strain.

6. In a rail joint, the combination with a pair of companion rail sections formed in their meeting ends with matching seating recesses, of a chair including a base supporting the rail sections, a pair of opposed side plates upstanding from the base on opposite sides of the rail sections and adapted to be bent inwardly thereagainst, an abutment separate from the base and the side plates and received in the seating recesses, and means for removably securing the abutment upon the base between the side plates.

7. In a rail joint, the combination with a pair of companion rail sections formed on one side at their meeting ends with matching seating recesses, of a chair including a base supporting the meeting ends of the rail

sections, side plates upstanding from the
base on opposite sides of the rail sec-
tions, and an abutment upstanding from the
base between the side plates and received in
5 the seating recesses, the side plate adjacent
to the abutment being separate therefrom
and adapted to be bent inwardly to fit
against the side of the rail sections and to

bear against the abutment to brace the same
against lateral strain.

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

WILLIAM F. JOHNSON. [L. S.]

Witnesses:

D. L. DARR,

W. J. BOOTH.