W. F. JOHNSON.

RAIL JOINT.

APPLICATION FILED JAN. 7, 1910.

977,652. Patented Dec. 6, 1910.

FIG. 1.

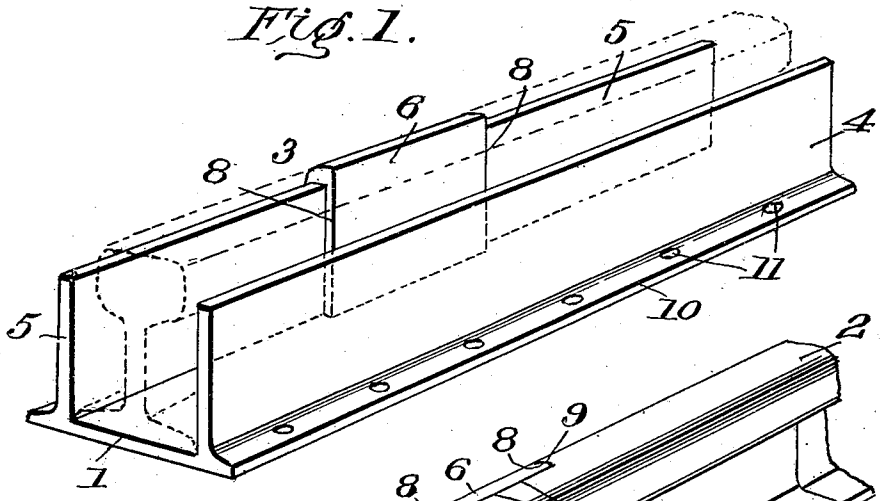


FIG. 2.

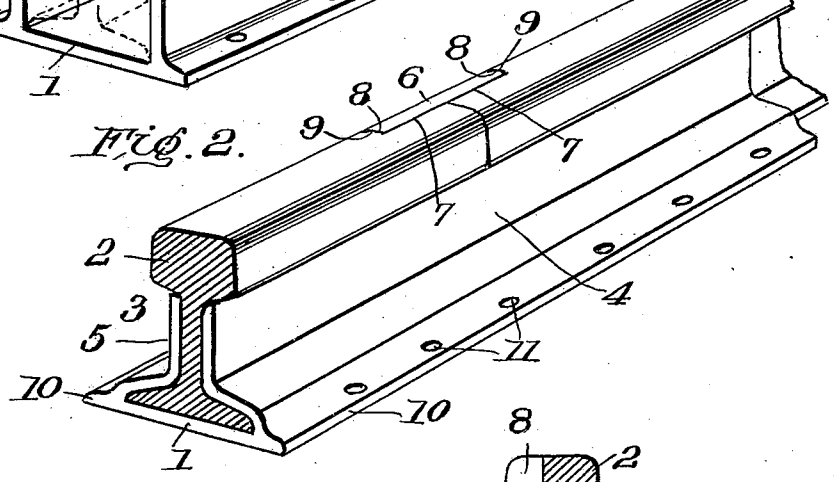
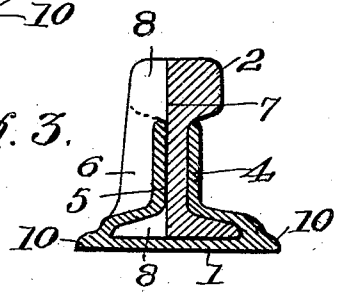


FIG. 3.



Witnesses

W. H. Wordsworth,

Juana M. Fallin,

Inventor

W. F. Johnson

By Howard Kacey, Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM F. JOHNSON, OF BASIN, WYOMING.

RAIL-JOINT.

977,652. Specification of Letters Patent. Patented Dec. 6, 1910.

Application filed January 7, 1910. Serial No. 536,861.

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 the primary object of the invention is an improved joint member or chair which receives the meeting ends of the rails and effectually connects the same together without the use of bolts or other fastening devices, the rail ends having a limited longitudinal movement in the chair so as to compensate for expansion and contraction through exposure to the weather.

A further object of the invention is a rail chair having upstanding side members that are integral therewith and are adapted to be bent inwardly to conform to the contour of the rails and to lie snugly against the opposite sides thereof.

A still further object of the invention is a rail chair in which one of the side members embodies an intermediate rigid abutment which spans the joint and is received in recesses formed in the heads and base flanges of the rails and limits the longitudinal movement thereof in the chair, the abutment being flush with the upper surface of the heads, whereby to afford a continuous tread and obviate the disagreeable and injurious pounding of the wheels of the rolling stock as they pass over the joint.

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 perspective view of a rail chair constructed in accordance with my invention, the side members being shown in their initial position. Fig. 2 is a sectional perspective view of a rail joint equipped with the chair, the side members being shown as bent into engagement with the rails; and, Fig. 3 is a transverse section of the joint.

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.

In carrying out the present invention, I provide a joint member or chair having a longitudinally disposed base 1 upon which rest the meeting rail ends 2 that are of conventional form. On opposite sides of the rail ends the base is formed with integral side members 3 and 4 that upstand therefrom in opposed relation and that in their normal positions are straight and have a substantially vertical disposition (see Fig. 1). One of these side members, designated 3, is divided vertically at longitudinally spaced points into three sections, the end sections 5 being severed from the intermediate section 6, as shown, so as to be separate therefrom.

The intermediate section 6 is taller and relatively thicker than the end sections and projects upwardly and inwardly therebeyond and constitutes a rigid abutment that spans the rail joint. The inner face of the abutment is smooth and lies in a substantially vertical plane and abuts against the adjacent side faces of the webs of the rails, the upper and lower portions of the abutment being received in recesses 7 formed in the corresponding laterally projecting portions of the heads and base flanges of the rail ends for this purpose. The end walls of the abutment thus serve as oppositely and longitudinally facing stop shoulders 8 which coöperate with the shoulders 9 at the ends of the recesses to limit the longitudinal movement of the rails in the chair. The upper surface of the abutment is flush with the upper surfaces of the heads of the rails which is a manifest desideratum inasmuch as a continuous tread surface is afforded. 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.

The side member 4 and the end sections 5 are adapted to be bent inwardly after the rail ends have been placed in the chair, to conform to the contour of the rail ends and to lie snugly against the opposite sides thereof with their upper edges fitting under the overhanging portions of the heads. In this position of the parts, the rails are effectually gripped to the chair and are held against both vertical and lateral displacement without the use of bolts or like fastening devices which have been found so objectionable in practice. It is to be observed, however, that the rail ends have a limited longitudinal movement within the chair, so as to be free to compensate for expansion and contraction through exposure to the weather.

The base is preferably extended laterally and outwardly beyond the side members, as indicated at 10, and is formed in such extended portions with a plurality of apertures 11 for the reception of spikes or like fastening devices through the medium of which the chair is attached to the cross ties.

From the foregoing description in connection with the accompanying drawing it will be apparent that I have provided an improved rail joint which embodies to a marked degree the characteristics of simplicity, durability and strength; and which consists of comparatively few parts and is capable of being easily and quickly assembled so as to admit of the track being expeditiously laid, the joint not requiring subsequent attention, whereby to decrease the cost of maintenance of the track. Furthermore, the joint may be easily and cheaply manufactured and is particularly economical in use so as to warrant its general adoption.

It is to be understood that if desired the side member 4 and the end sections 5 may be bent inwardly to conform substantially to the cross sectional contour of the rails, during the process of manufacture of the chair and while the metal is still hot. When thus bent, the side member 4 and the end sections 5 are spaced apart sufficiently to permit the rail ends to be freely inserted longitudinally therein when assembling the parts of the joint, the parts 4 and 5 being subsequently bent slightly inwardly to fit the rails more snugly. By carrying the invention into practice in this manner, the time and labor involved in laying the track is reduced to a minimum.

Having thus described the invention what is claimed as new is:

1. A rail chair comprising a base, opposed side members upstanding from the base, one of the side members being divided at longitudinally spaced points to form intermediate and end sections, the intermediate section being rigid and extending inwardly beyond the end sections to provide oppositely and longitudinally facing stop shoulders, the end sections being adapted to be bent inwardly to conform to the contour of a rail.

2. In a rail joint, the combination with the meeting ends of the rails, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form end sections and an intermediate section interposed therebetween, the intermediate section constituting a rigid abutment engaging with the rail ends to limit the longitudinal movement thereof in the chair, and the end sections being bent inwardly to conform to the contour of and lie snugly against the adjacent sides of the respective rails.

3. In a rail joint, the combination with the rails formed at one side in their meeting ends with matching recesses, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section being rigid and being received in the recesses in the rail ends, the end sections being bent inwardly to lie against and conform to the contour of the adjacent sides of the respective rails.

4. In a rail joint, the combination with the meeting ends of the rails formed on one side in their heads and base flanges with matching recesses, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section extending inwardly beyond the end sections and constituting a rigid abutment spanning the joint and received in the said recesses, the end sections being bent inwardly to lie against and conform to the contour of the respective rail ends.

5. In a rail joint, the combination with the meeting ends of the rails, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rails, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section spanning the joint and having its upper surface flush with the upper surface of the rail ends to afford a continuous tread, the end sections being bent to lie against and conform to the contour of the adjacent sides of the respective rail ends.

6. A rail chair comprising a base, and opposed side members upstanding from the base, the intermediate portion of one of the side members projecting inwardly toward the other side member and constituting an abutment providing oppositely and longitudinally facing stop shoulders, the other side member and the end portions of the said side member conforming to the contour of the sides of the rails.

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

WILLIAM F. JOHNSON. [L. S.]

Witnesses:

PHILIP MINOR,

GRACE ALEXANDER.