

W. G. CHIPLEY.
 MEANS FOR FASTENING RAILS TO TIES.
 APPLICATION FILED AUG. 17, 1912.

1,064,817.

Patented June 17, 1913.

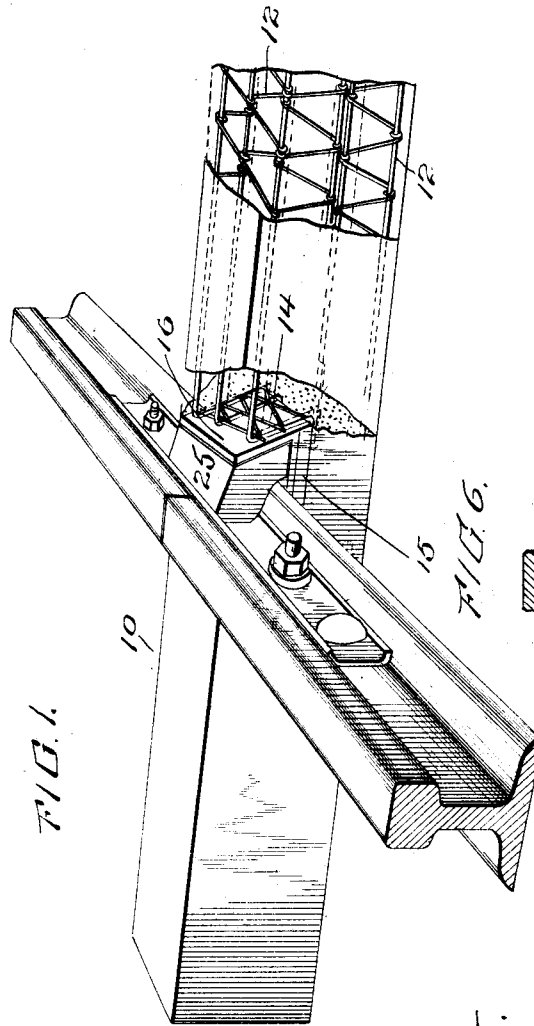


FIG. 1.



FIG. 2.

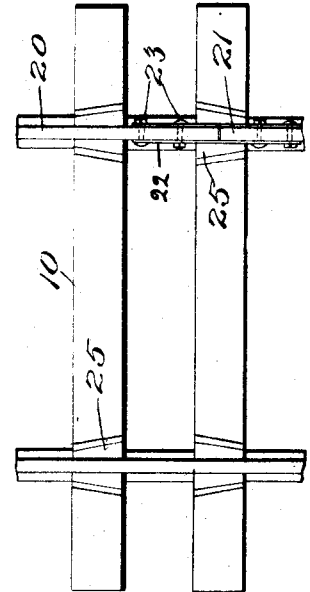


FIG. 3.

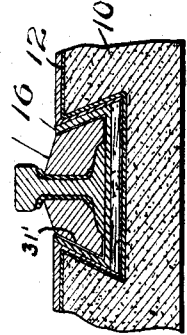


FIG. 4.

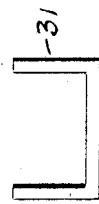


FIG. 5.



Witnesses

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MEANS FOR FASTENING RAILS TO TIES.

1,064,817.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed August 17, 1912. Serial No. 715,655.

To all whom it may concern:

Be it known that I, WILLIAM G. CHIPLEY, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Means for Fastening Rails to Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for fastening rails to ties, and is especially adapted for use with metallic ties and with ties in which the body portion is of concrete.

In carrying out my invention I employ a tie having a transverse recess in each end, or in a chair member mounted above each end, such recess being adapted for the reception of the rails and of cushioning and rail securing devices. The recess may have undercut sides and may taper transversely with reference to the ties and longitudinally with reference to the rails.

In the present construction I employ a metallic chair or pocket, which may be cast in the tie, if of concrete, or mounted upon the tie, if the latter is of metal. The chair if cast in the tie may be removed and replaced by a few blows with a hammer. Below the chair a cushioning member of wood or other material is placed, and tar paper may be employed, if desired, between the several parts of the structure. If the tie is of concrete, a reinforcement therefor extending longitudinally of the body portion may also partly inclose the chair and in that manner have indirect connection with the rails. If the reinforcement is of the type more clearly shown and described in my copending application Serial No. 715,656 filed August 17, 1912, strains on said rail will be communicated through the chair to the reinforcement and distributed by the latter about the tie adjacent to the surface thereof avoiding danger of fracturing the body portion of the tie.

I do not limit myself to the exact form of the recess in the tie or of the chair since the sides of the latter may be substantially vertical or may be slightly flared outwardly toward the top if desired.

In the drawings forming a part of this application, Figure 1 is a view in perspective showing the manner of connecting the rails with the ties. Fig. 2 is a plan view of

a section of track including a rail joint. Fig. 3 is a vertical section transversely through the rail and longitudinally through the tie. Fig. 4 is an end view of one form of chair. Fig. 5 is an end view of another form of chair. Fig. 6 is a vertical section showing the construction at points intermediate of the ends of the rails.

The body portion of the tie is indicated by 10, and at suitable points in the upper portion thereof transverse recesses are provided for the reception of the rails and of the devices for securing the rails.

In the tie shown in the drawing the body portion is of concrete and a longitudinal reinforcement 12 of the type shown in the copending application above referred to is provided with the deflected portions 14 which extend about the walls of the recess and reinforce the said walls near their surface, embracing also the rail securing devices.

A cushioning member 15 is located in the bottom of each recess, this member being of wood if desired and mounted upon said member 15 is a chair or pocket 16 which has upwardly extending sides inclined inwardly toward the top if desired but not necessarily so inclined. The chair 16 tapers from one end toward the other so that the cross section varies gradually from one end to the other. In Fig. 2, the ends of rails 20 and 21 are shown as meeting within the chair the rails being secured by fish plates 22 and by bolts 23.

Wedge blocks 25 are disposed on each side of the rails and are located within the chair 16, being designed to have close contact with the inclined sides of the recesses of the tie. These wedges after being inserted are found to hold the rails securely without additional means of any description. This is true not only when the side portions of the chair are tapered inwardly, but when they are substantially straight or are slightly inclined outwardly at the top, as at 31 and 32, respectively. If desired tar paper may be located between the chair and blocks as shown at 31.

In this construction, as well as in other applications filed by me, the rails are directly supported and cushioned, both vertically and laterally, for approximately one-third of the distance between the centers of adjacent ties. The head is also supported and cushioned.

What I claim is:

1. In a device of the class described, a body portion provided with a transverse recess, a chair located within said recess and adapted to be retained therein by frictional contact with the walls of the recess, said chair being arranged to receive the flange of a rail, and wedging devices disposed within the chair between the web of the rail and the sides of said chair.
2. In a device of the class described, a tie provided with a transverse recess, a chair of wedge formation in transverse section disposed within the recess and having frictional contact with the walls thereof, said chair being adapted to receive the flange of a rail, means for securing the rail to the chair by frictional contact, and a reinforcing structure for the tie, portions of said structure lying adjacent to the walls of the recess and conforming to the sides of the chair for retaining the latter in position in cooperation with the frictional surface afforded by the concrete body portion.
3. In a device of the class described, a tie, a chair connected therewith, a cushioning

device located between the tie and chair, said chair being adapted for receiving a rail and being wedge shaped in vertical transverse section, and having its sides tapering longitudinally, and means for insertion within the chair and contacting with the sides thereof and with the rails.

4. In a device of the class described, a tie, a chair connected therewith and arranged to receive the flange and web of a rail, said chair having upwardly extending sides tending to converge toward one end, means for securing the chair to the tie and additional means for embracing the sides of the chair and transmitting strain from said sides to various portions of the tie, and wedge blocks within the chair and disposed respectively on opposite sides of the rail, said blocks engaging the web, the top of the flange and the edge thereof.

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

WILLIAM G. CHIPLEY.

Witnesses:

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