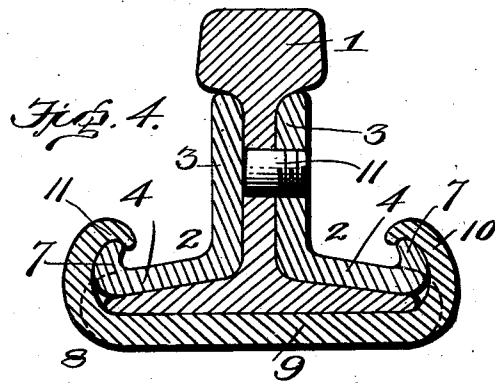
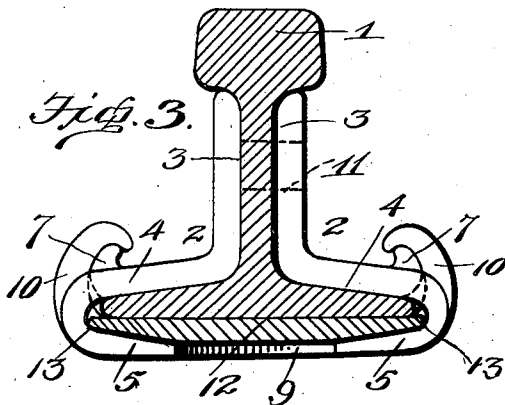
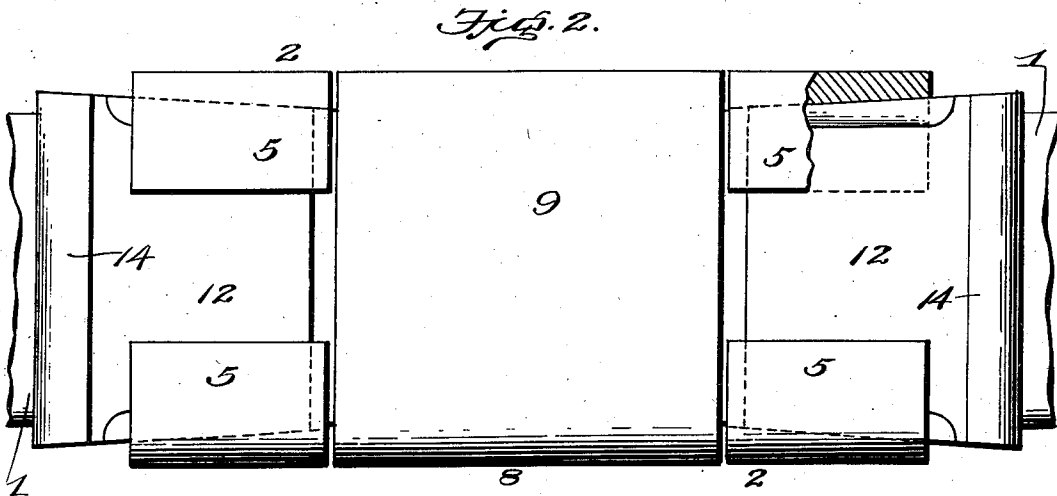
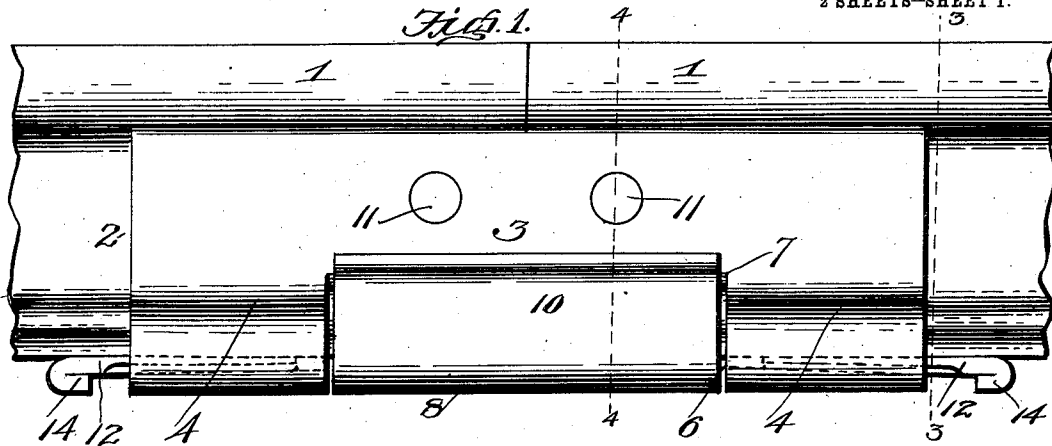


C. DEPEW.
RAILWAY RAIL JOINT.
APPLICATION FILED SEPT. 1, 1911.

1,012,823.

Patented Dec. 26, 1911.

2 SHEETS—SHEET 1.

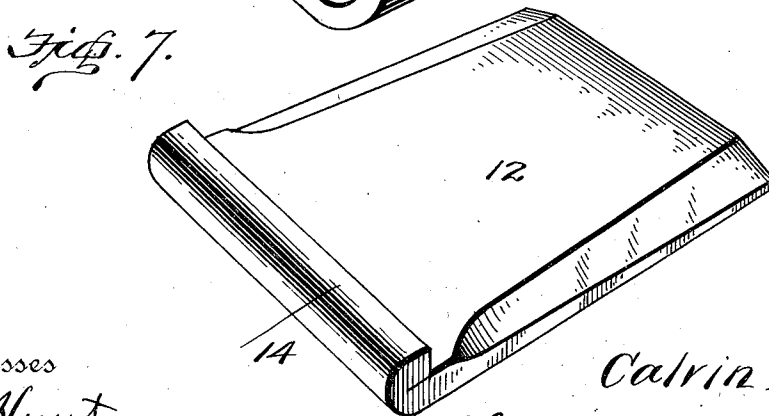
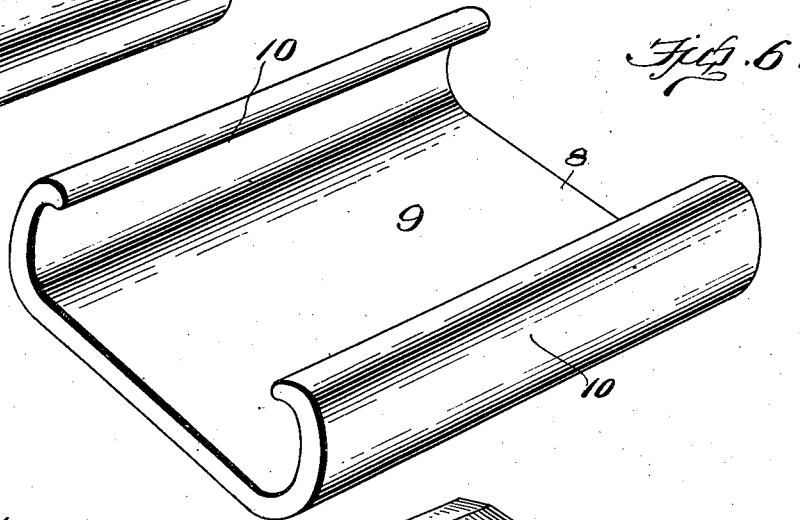


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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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RAILWAY-RAIL JOINT.

1,012,823.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed September 1, 1911. Serial No. 647,217.

To all whom it may concern:

Be it known that I, CALVIN DEPEW, citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Railway-Rail Joints; and I do 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 improvements in railway rail joints.

One object of the invention is to provide an improved construction of railway rail joint by means of which the meeting ends of the sections of the rail may be securely clamped together and held in perfect alignment and firmly supported against the strain and pressure to which the ends of the rail are subjected by the passage of trains over the rail.

Another object is to provide a rail joint of this character having means whereby the same is secured in position on the rails without the necessity of spiking the joint to the tie, said fastening means being adapted to be readily released to permit the joint to be shifted for the purpose of removing any of the rail sections without disturbing the adjoining sections.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a side view of the meeting ends of two rail sections showing the application of the invention; Fig. 2 is a bottom plan view thereof; Fig. 3 is a cross sectional view on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 1; Fig. 5 is a detail perspective view of one of the angle bars or fish plates of the joint; Fig. 6 is a similar view of the combined chair and plate clamping member of the joint; Fig. 7 is a similar view of one of the wedge plates for fastening the joint to the rail, said plate being shown bottom side up.

Referring more particularly to the drawings, 1 denotes the meeting ends of two rail sections and 2 denotes the angle bars or fish

plates of my improved joint. The angle bars or fish plates 2 each comprises a vertical web engaging portion 3 and base flange engaging portion 4, said portion having its outer edge bent downwardly and inwardly to form a flange 5 which is adapted to project beneath the lower side of the base flange of the rail as shown. The base engaging portion 4 and the flange 5 of the angle bar are cut away midway between the ends of the bar to form a recess 6. The edge of the recess 6 is bent upwardly and curved or rounded to form a rib 7 along the upper side of the base engaging portion 4 of the bar as shown. The angle bars or fish plates 2 when thus constructed are adapted to be applied to the opposite sides of the meeting ends of the rail sections in the same manner as the ordinary form of fish plates and when thus arranged are clamped into engagement with the rail ends by means of a combined chair and clamping plate 8 said chair comprising a base plate 9 which is adapted to receive and form a seat for the base flanges of the rail ends and which has formed on its edges upwardly extending inwardly curved clamping flanges 10 which are adapted to fit into the recesses 6 of the base engaging portion 4 of the angle bars and engage the ribs 7 formed on the edge of the recesses 6. The chair 8 when thus arranged forms a firm support for the meeting ends of the rail sections and also serves as a clamp or hinge member for the fish plates or angle bars whereby the latter when released from the fastening device hereinafter described may be swung back in the flanges 10 and out of engagement with the sides of the rail sections.

The vertical portions 3 of the angle bars or fish plates may if desired be provided with bolt holes to receive the usual fastening bolts which are engaged with the bolt holes in the ends of the rail sections or as herein shown one of said angle bars is preferably provided with studs 11 secured thereto in any suitable manner and projecting a short distance beyond the inner sides of the vertical portion of the bars, said studs being adapted to engage the bolt holes in the ends of the rail section thereby preventing said rail sections from creeping. The studs 11 are of less diameter than the

bolt holes in the rail ends thus providing for the expansion and contraction of the rails.

The angle bars 2 and chair 8 are held in operative engagement with the ends of the rail sections by means of wedge shaped fastening plates 12, said plates being slightly tapered toward one end and having their lower side edges beveled as clearly shown in Fig. 7 of the drawings. The tapered beveled edges of the plates are adapted to be engaged with tapered grooves or channels 13 formed by the inwardly projecting flanges 5 of the base engaging portions 4 of the angle bars as clearly shown in Fig. 2 of the drawings. The outer ends of the wedge plates 12 are bent back upon themselves to form offset heads 14 whereby the wedge plates may be driven into and out of engagement with the channels formed by the flanges 5. When the wedge plates 12 are thus driven into engagement with the flanges 5 of the angle bars the portions 4 of the latter are drawn into tight engagement with the base flanges of the rail sections.

When it is desired to remove any of the rail sections the wedge plates 12 are driven back out of engagement with the flanges 5 and base of the rail sections after which the angle bars may be swung back in the flanges or hinge members 10 of the chair thus disengaging the studs 11 from the bolt holes in the ends of the rail sections whereupon the angle bars and chair may be slipped back on the end of one rail section a sufficient distance to clear the end of the adjoining section after which the latter section may be readily removed and a new section put in place whereupon the angle bars and chair are shifted back into engagement with the end of the new section and the wedge plates 12 driven back into place thereby fastening the angle bars and chair in operative position.

By constructing the angle bars and chair as herein shown and described it will be readily seen that the joining ends of the rails will be firmly supported by the chair and thus held in horizontal alinement while the angle bars or fish plates will securely hold the ends of the rails in vertical alinement thus providing a smooth even joint for the meeting ends of the rails which will dispense with the noise occasioned by the wheels of the rolling stock passing over the joints and will effectually prevent the wear on the wheels which is occasioned by the passage of the same over uneven joints of the rail sections.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

1. In a railway rail joint, a pair of angle bars, said bars comprising vertical web engaging portions and base flange engaging portions, said base flange engaging portions having their outer edges bent inwardly to form flanges, a combined chair and clamping member comprising a base plate, clamping flanges formed on the side edges of said plate and adapted to engage the base engaging portions of the angle bars whereby the latter are held in operative engagement with the ends of the rail sections and wedging members adapted to be driven into engagement with the flanges on the base engaging portion of the angle bars whereby the latter are drawn into operative engagement with the ends of the rail sections in the chair.

2. In a railway rail joint, a pair of angle bars, said bars comprising vertical web engaging portions, angular base flange engaging portions, said portions having centrally disposed recesses formed in their outer edges, inwardly projecting flanges formed on and spaced a suitable distance from the edges of the base engaging portions of the angle bars, said flanges and the adjacent portions of the base of the rail sections forming tapered grooves or channels, a combined chair and clamping member adapted to be engaged with the recessed portions of said angle bars and the lower side of the rail ends and tapered wedge plates adapted to be driven into said tapered grooves or channels in the opposite flanges of the angle bars whereby the latter are fastened in engagement with the ends of the rail sections.

3. In a railway rail joint, a pair of angle bars, said bars comprising vertical web engaging portions, angular base flange engaging portions, said portions having centrally disposed recesses formed in their outer edges, inwardly projecting flanges formed on and spaced a suitable distance from the edges of the base engaging portions of the angle bars, said flanges and the adjacent portions of the base of the rail sections forming tapered grooves or channels, upwardly projecting ribs formed on the edges of the recesses in the sides of the rail, a combined chair and clamping member comprising a base plate adapted to engage the lower sides of the ends of the rail sections, overhanging flanges formed on the side edges of said plate and adapted to engage the recesses in the angle bars and the ribs formed on the edges of said recesses, and wedge shaped fastening plates adapted

to be driven into the tapered grooves in the flanges of the angle bars, said wedge shaped plates having their tapered edges beveled, and heads formed on the outer ends of said
5 wedge plates whereby the latter are driven into and out of operative engagement with the flanges of the angle bar.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CALVIN DEPEW.

Witnesses:

RUDOLPH A. HAHN,
FRANK F. SCHULTZ.