

G. H. BARBOUR.
RAIL JOINT.
APPLICATION FILED MAR. 27, 1909.

940,777.

Patented Nov. 23, 1909.
2 SHEETS—SHEET 1.

Fig. 1.

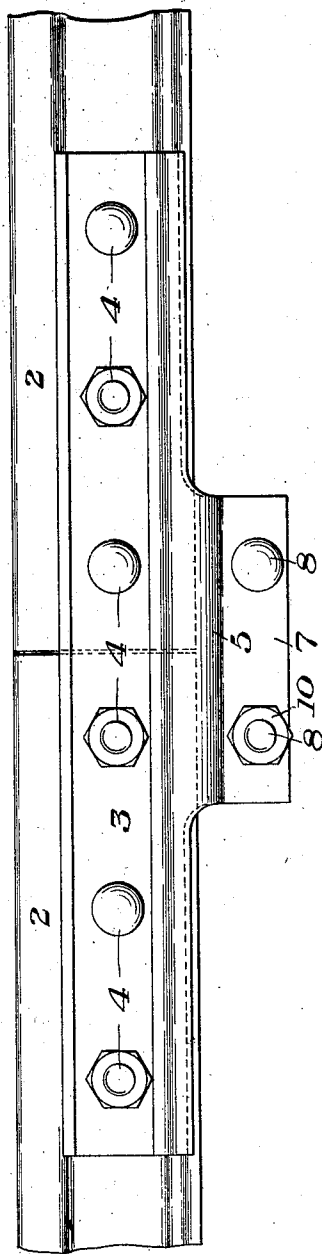


Fig. 2.

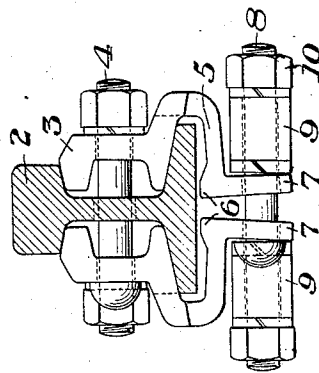
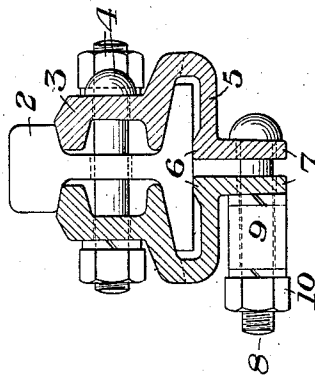


Fig. 3.



WITNESSES

R. A. Balderson.
J. L. McIntire.

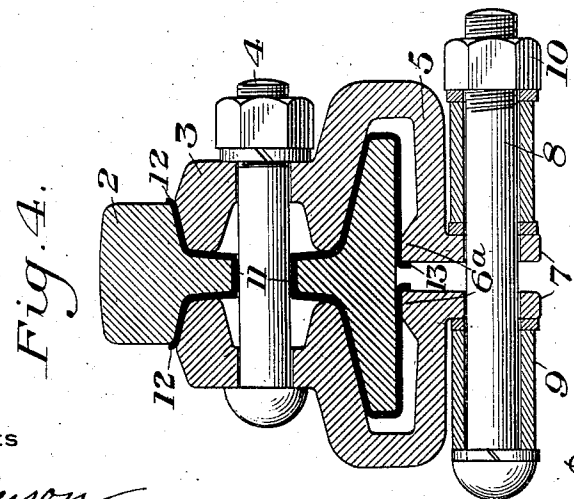
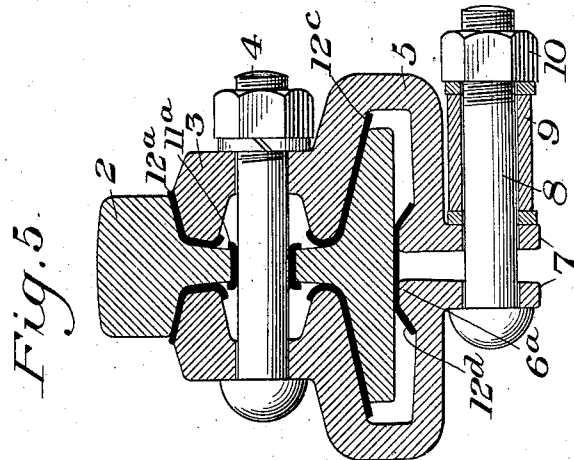
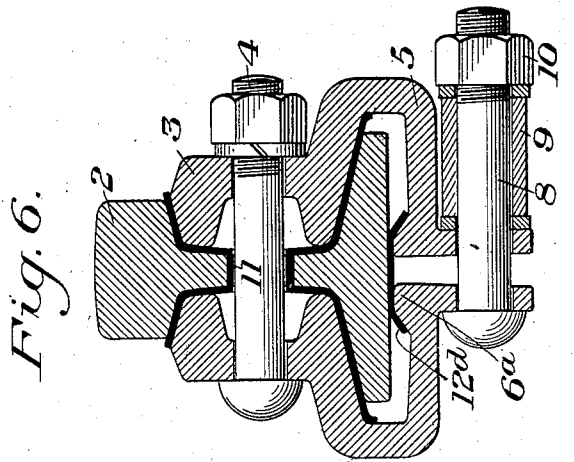
INVENTOR

Geo. H. Barbour,
by Bahwell, Dymus & Parmelee,
his Attys.

G. H. BARBOUR.
RAIL JOINT.
APPLICATION FILED MAR. 27, 1909.

940,777.

Patented Nov. 23, 1909.
2 SHEETS—SHEET 2.



WITNESSES

R. A. Balderson
G. L. Bunters

INVENTOR

Geo. H. Barbour,
by *Bakerwell, Byrnes & Parmelee,*
his Attys.

UNITED STATES PATENT OFFICE.

GEORGE H. BARBOUR, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

940,777.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed March 27, 1909. Serial No. 486,258.

To all whom it may concern:

Be it known that I, GEORGE H. BARBOUR, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal side elevation showing my improved splice bar applied for use to the ends of adjoining rails of a railway track; Fig. 2 is an end elevation, showing the rail in cross-section and showing my improved splice bar with the flanges located beneath the base of the rail in position just prior to being drawn into engagement with the bottom surface of the rail bases; Fig. 3 is an end elevation showing the splice bars in cross-section, with the downwardly and inwardly extending flanges drawn tightly into engagement with the bottom surface of the rail bases in accordance with my invention; Fig. 4 is a sectional end elevation showing my improved splice bar applied for use to the rails of a railway track, and provided with means for insulating the rails from each other and from the splice bars; Fig. 5 is a similar view showing a modification in the insulating means; Fig. 6 is a similar view showing another modification in the insulating means.

My invention relates to the type of rail joint in which the splice bars are provided with depending flanges extending below the bottom surface of the rail bases.

The object of my invention is to provide a splice bar of improved construction and having novel means for strengthening the rails at the joint and for preventing buckling or bending at the joint by the passage of cars thereover.

Another object of my invention is to provide improved means for insulating the rails from the splice bars, and from each other.

In the drawings, 2 represents the rails of a railway track, having the splice bars 3 secured to the opposite ends of adjoining rails by means of the bolts 4. The top surface of the flange and the under surface of the head portions of the rail are engaged by correspondingly inclined surfaces on the splice bars 3, these surfaces being connected by a vertical web portion, in the usual man-

ner. The lower edge of the web of the splice bar 3 is provided with a downwardly and inwardly extending flange 5, and this flange is provided with oppositely extending marginal rib portions 6 and 7. The splice bars 3 on opposite sides of the rail are symmetrical, the ribs 6 being in proximity when the splice bars are assembled in place in forming the rail joint. The lower and widest marginal rib 7 is provided with bolt holes through which the bolts 8 extend, these bolts being employed to draw the ribs 7 together and force the marginal ribs 6 upwardly into close contact with the bottom surfaces of the bases of the rails 2, from the position shown in Fig. 2 into that shown in Fig. 3. As shown in the drawings, the bolts extend outwardly beyond the flange 5 of the splice bar, and a sleeve or thimble 9 is placed on the bolts between one rib 7 and the nut 10 for the free play of the wrench by which the bolts 8 are tightened in place, in drawing the ribs 7 and 6 into their adjusted position.

As shown in Figs. 4, 5 and 6, the rails are insulated from the splice bars. In Fig. 4 a thimble 11 of insulating material is placed in the bolt holes in the rails, and a strip of insulating material 12 is interposed between the engaging surfaces of the rail and the splice bars, the lower ends 13 of the insulating material being bent over and engaging with the upwardly projecting ribs 6^a on the marginal edges of the flanges 5 of the splice bar.

In the modification shown in Fig. 5, a thimble 11^a of insulating material is provided, which is flanged upwardly so as to be securely held in place in the bolt holes in the rails. Strips of insulating material 12^a are provided between the engaging faces of the underside of the head of the rails 2, and the upper faces of the splice bar 3. Separate strips of insulating materials 12^c are provided to insulate the top face of the base of the rail 2 from the splice bars 3, and a strip of insulating material 12^d is placed between the upwardly projecting ribs 6^a on the flange 5 of the splice bars and the under surface of the base of the rail 2.

In the modification shown in Fig. 6, the splice bars 3 and securing bolts 4 are insulated from the rails in the same manner as is shown in Fig. 4. The insulating material does not extend downwardly under the base

of the rail, but a separate strip of insulating material 12^a is provided to insulate the upwardly projecting ribs 6^a from the base of the rail in a similar manner to that shown in Fig. 5.

The advantages of my invention will be apparent to those skilled in the art. By means of the depending marginal ribs on the downwardly and inwardly extending flanges 5, I am enabled to bring the top or upper ribs into close contact with the bases of the rails. This is of particular value with the new standard types of rails in which the weight has been largely increased without a corresponding increase in the depth or in the width of the rail flange. This construction which cuts down the space between the head and flange of the rail in which the rail joints are secured tends to lessen the strength of the splice bars of existing types. The means provided for insulating the portions from each other are easily and cheaply made, and can be quickly applied for use. By the use of the insulating material as shown in the drawings the rails are insulated from the splice bars and from each other, while the upwardly projecting ribs on the depending flanges of the splice bars are adjustably held in contact with the under face of the rail bases so as to stiffen and strengthen the joint between the rails.

Modifications in the construction and arrangement of the parts can be made without departing from my invention. The splice bar is simple and is easily manufactured in the rolling mill.

While the flanges 5 and marginal ribs 6 and 7 are shown extending for a portion of the length of the splice bar, obviously the flange or ribs or both may extend the entire length of the bar when desired.

Instead of the upwardly extending rib on the depending flange, the top surface of the flange itself may be brought into engagement with the base of the rail and other changes may be made within the scope of the appended claims.

The shape and thickness of the insulating material may be varied, and the composition of the insulating material may be changed as is desired.

I claim—

1. In a rail joint splice bars having members depending below the rail bases, said members being arranged out of contact with the edges and outer bottom surfaces of the rail bases and having an upward bearing member engaging with the rail bases at an intermediate point in the width thereof the adjacent edges of the opposing members beneath the rail bases being out of contact with each other and clamping means extending transversely beyond the end of the splice bar for forcing said bearing members

upwardly against the rail bases; substantially as described.

2. In a rail joint, splice bars for the rails having depending flanges extending downwardly, inwardly and then upwardly and downwardly below the bases of the rails, and means for securing the upwardly projecting members in engagement with the rail bases, the downwardly extending members being out of engagement with each other; substantially as described.

3. A splice bar for rails, having a depending flange extending downwardly and inwardly below the bases of the rails and having oppositely extending marginal ribs on said flange and means cooperating with the bottom rib to hold the opposite rib in engagement with the bottom surface of the rail bases; substantially as described.

4. A rail joint, having a splice bar with a downwardly and inwardly projecting flange, said flange having oppositely projecting rib portions on the edges thereof and means engaging with one of said ribs for drawing its opposite rib into engagement with the bottom surface of the bases of the rails; substantially as described.

5. A rail joint comprising splice bars having downwardly and inwardly extending flange portions, oppositely projecting marginal ribs on the end of said flange portions, and means on the lower end of said rib portions adapted to bring the opposing rib portions into engagement with the bottom surface of the rail bases; substantially as described.

6. A rail joint having a splice bar with a downwardly and inwardly projecting flange, said flange having oppositely projecting rib portions on the edges thereof and means engaging with one of said rib portions for drawing its opposite rib portion into engagement with the bottom surface of the bases of the rails, said flange terminating short of the length of the splice bar; substantially as described.

7. A rail joint comprising coacting splice bars having downwardly and inwardly projecting flange portions, said flange portions having oppositely projecting marginal rib portions one of said ribs on each splice bar being adapted to engage with the under surface of the base of the rails and bolts seated in openings in the opposing rib portions arranged to draw and maintain the ribs in engagement with the rail bases, substantially as described.

8. An insulated rail joint, comprising splice bars having depending flange portions extending downwardly and inwardly below the rail bases, horizontal rib portions on said flanges adapted to engage with and support said rail bases, means arranged to bring the upper rib portions into engagement with said rail bases, and means for

insulating the rails from said splice bars and supporting rib portions; substantially as described.

5 9. A rail joint having splice bars with downwardly and inwardly projecting flange portions, said flange portions having oppositely projecting rib portions on the edges thereof, insulating means between the rails and contacting surfaces of the splice bars, 10 and means engaging with one of said ribs for drawing its opposite rib into engagement with the bottom surface of the insulation for the bases of the rails; substantially as described.

15 10. An insulated rail joint comprising splice bars having depending flange portions extending downwardly, inwardly and then

upwardly and downwardly below the rail bases, said flanges being arranged to engage with and support the rail bases at an intermediate point the width thereof, means for 20 insulating the rails from said splice bars and supporting flanges and means for securing the flanges in their supporting position the upwardly and downwardly extending 25 flange members being out of engagement with each other; substantially as described.

In testimony whereof, I have hereunto set my hand.

GEORGE H. BARBOUR.

Witnesses:

WM. J. SAUNDERS,
J. C. BILLY.