

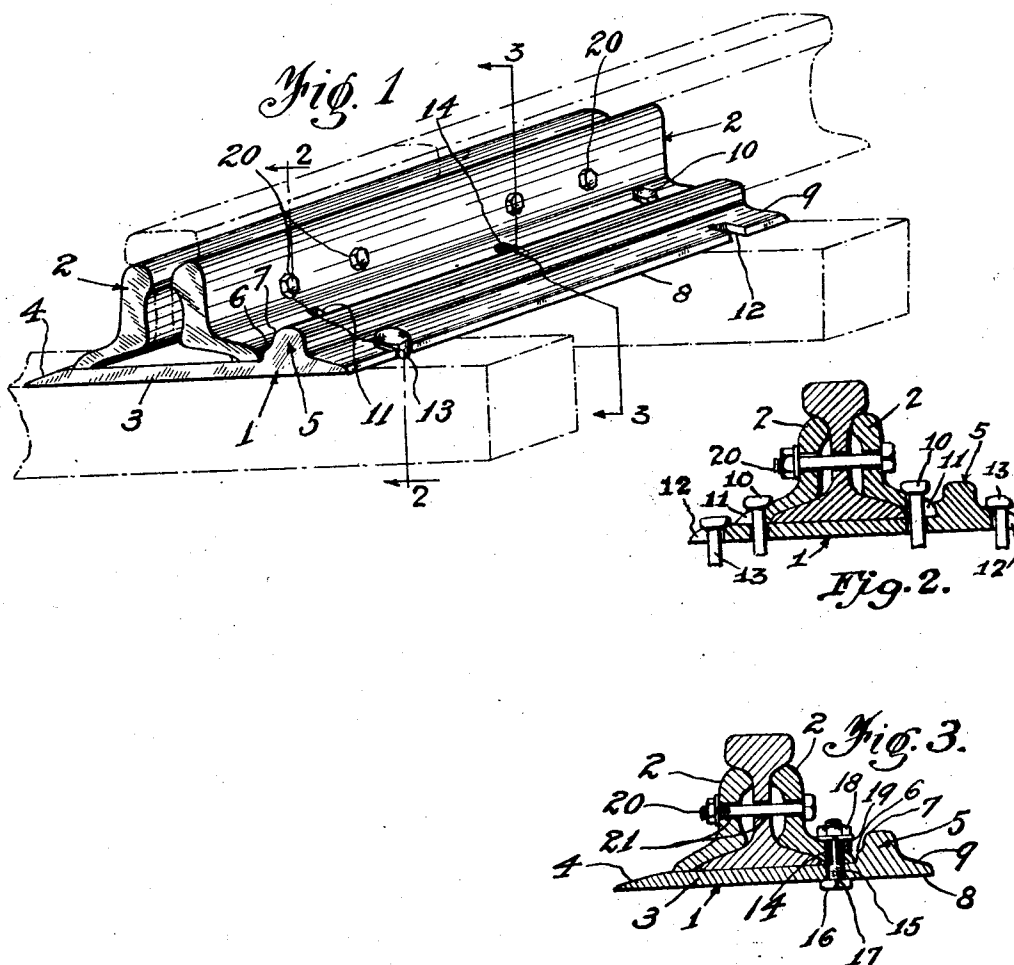
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COMBINATION RAIL JOINT SPLICING AND SUPPORTING PLATE

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COMBINATION RAIL-JOINT SPLICING AND SUPPORTING PLATE.

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This invention relates to rail supporting devices and more in particular to combination rail-joint splicing and supporting plates.

5 The primary object of this invention is to provide a combination rail-joint splicing and supporting-plate which is so constructed and proportioned as to prevent sagging of the ends of connected rails during the passage
10 thereof of the locomotive and car-wheels of a train, thus relieving said rail-ends of the tremendous strains they are subjected to and reducing the wear of said ends to a degree substantially equal to that of the less
15 exposed portions of the rail. Another object of this invention is the provision of a combination rail-joint splicing and supporting-plate which enables the elimination of the bearing-plates commonly employed in
20 railroad track construction for the purpose of increasing the bearing surface of said rails on the ties in order to prevent any crushing pressures thereon. Still another
25 object is the provision of such a combination splicing and supporting device which permits the safe and efficient joining of rails with the minimum number of parts and with great saving in time and labor. Yet another
30 object of this invention is to produce such a device which is well adapted for quantity manufacture by the usual processes of hot rolling and bending as they are performed in steel mills, in particular. Additional features and advantages of this invention will
35 be dealt with in the course of the following description considered in connection with the accompanying drawing which forms a part of this application, and in which:

40 Fig. 1 is a perspective view of my combination rail-joint splicing and supporting plate, showing the connected rails in dot and dash lines.

Fig. 2 is a cross-sectional view taken on line 2—2 in Fig. 1.

45 Fig. 3 is a similar view taken on line 3—3, Fig. 1.

Referring to Fig. 1, the preferred construction of my combination rail-joint splicing and supporting-plate consists of the
50 bearing-plate 1 and the two splice-bars 2. The bearing-plate comprises a sole-plate 3, of ample width to accommodate the rails and the splice-bars, and having one of its longitudinal edges bevelled off, as shown at
55 4, to facilitate the insertion of the bearing-plate under the rail. Opposite said bevelled

edge, the bearing-plate is provided with an integral, upwardly directed, reinforcing rib 5 which, as shown in the drawing, has two steps 6 and 7, the purpose of which is to provide better accessibility for driving-in or
60 extracting the holding-down spikes 10. Adjacent the rib 5 is a longitudinal flange 8 the top 9 of which is tapered outwardly to agree more or less with the bevelled edge 4
65 and for the dual purpose of reducing the weight of the plate and facilitating the drainage of rain-water.

The combination rail-joint splicing and supporting-plate and rails are secured to the
70 railroad ties by means of spikes 10, of the usual type, which are inserted in registering recesses and apertures 11 provided respectively in the edges of the lower flanges of the splice-bars 2 and in the sole-plate 3. Although these fastening means satisfy the
75 ordinary traffic and load conditions, if desired, and where the railroad service is especially heavy, additional recesses 12 may be provided in both longitudinal edges of the
80 bearing-plate for the insertion of another set of spikes 13. These additional recesses or apertures are not visible in the farther side of the supporting-plate in Fig. 1, but are plainly shown in Fig. 2. Moreover, as
85 shown in Fig. 3, the rigidity of the complete joint construction may also be materially increased by providing midway of each splice-bar a circular hole 14 in axial
90 alignment with a square hole 15 provided in the sole-plate, for the insertion of a bolt 16 having preferably a square shank 17 adapted to fit in the square hole 15, thus preventing the rotation of the bolt. These bolts are
95 secured in place by means of nuts 18 which rest upon suitably bevelled washers 19. The splice-bars are fastened to the rails by means of the through-bolts 20 inserted through
suitable and registering holes 21 provided in said parts.

100 My combination rail-joint splicing and supporting-plate may be made of suitable length to bear either on two or three ties. In view of the fact that these plates may be manufactured by the rolling process they
105 may, if desired, be made long enough to support the rails in their entire length. Under certain circumstances this feature may prove very valuable where the rails of a track,
110 owing to increased traffic or increased weight of the rolling stock, should prove too weak to withstand such increased loads. In such

cases the rails could be readily strengthened at relatively low cost and expeditiously.

I do not wish to limit myself to the exact form of the parts herein shown and described, as it is evident that same may be changed without departing from the spirit of my invention as defined in the appended claims.

I claim:

- 10 1. In a rail joint comprising two abutting rail ends, two splice-bars and holding down spikes, the combination of a substantially flat sole-plate having two bevelled longitudinal edges and an integral upwardly directed stiffening rib positioned adjacent and parallel to one of said bevelled edges, said stiffening rib having two steps on the inner side thereof, the lower step acting as an abutment for the base of the adjacent splice-bar and the upper step being disposed outwardly of said first step to provide room for the insertion and extraction of said spikes.
- 20 2. In a rail joint comprising two abutting

rail ends, two splice-bars and holding down spikes, the combination of a substantially flat sole-plate having two bevelled longitudinal edges and an integral upwardly directed stiffening rib positioned adjacent and parallel to one of said bevelled edges, said stiffening rib having two steps on the inner side thereof, the lower step acting as an abutment for the base of the adjacent splice-bar and the upper step being disposed outwardly of said first step to provide room for the insertion and extraction of said spikes; said sole-plate having at each side of the center-line thereof two rows of apertures adapted to receive said spikes, the inner rows of spikes serving to secure together the splice-bars to the sole-plate and the outer rows of spikes serving to hold the sole-plate to the rail-ties, said stiffening-rib being positioned intermediate an inner and an outer row of apertures.

In testimony whereof I affix my signature.
JAMES COYNE.