J. HRUSKA.

RAIL JOINT.

APPLICATION FILED MAY 7, 1921.

1,429,431.

Patented Sept. 19, 1922.

Fig. 1.

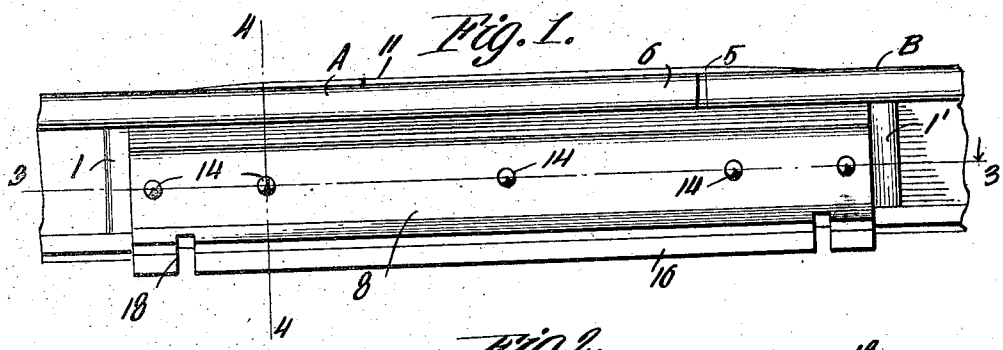


Fig. 2.

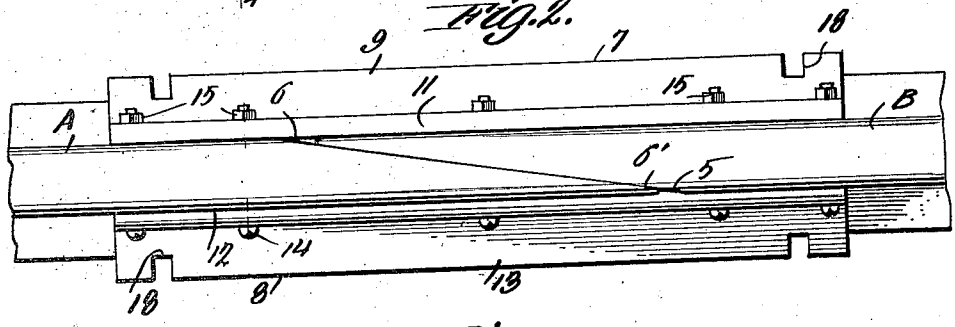


Fig. 3.

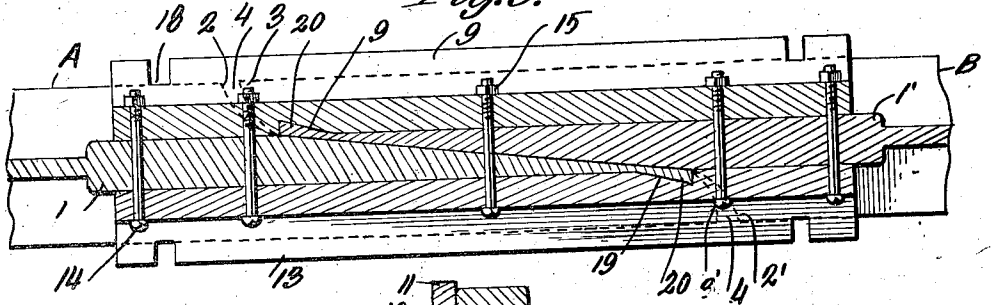
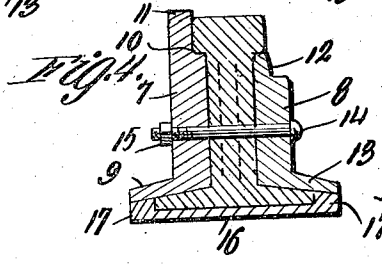


Fig. 4.



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WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH HRUSKA, OF MILWAUKEE, WISCONSIN.

RAIL JOINT.

Application filed May 7, 1921. Serial No. 467,634.

To all whom it may concern:

Be it known that I, JOSEPH HRUSKA, a 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 Rail Joints, of which the following is a specification.

The purpose and object of the invention is to provide an improved joint for the meeting end of adjacent rails which will provide for a smooth and even passage of the rolling stock over the rails without jar and without subjecting the latter to heavy strains or torsional stresses.

An additional object is to provide a rail joint of unique construction which will enable the meeting ends of rails to be strongly and firmly interlocked against relative displacement or disengagement; means being provided to allow for the expansion and contraction of the rail members.

With the above and other objects in view the invention may be said to reside generally in the details of construction, combination and arrangement of parts as will be hereinafter more fully pointed out and described, reference being had to the accompanying drawings wherein;

Figure 1 is a side elevation of a rail joint, illustrating the application of the invention; Figure 2, a top plan view of the rail joint; Figure 3, a horizontal cross-sectional view taken longitudinally of the joint as indicated at 3—3 in Figure 1; and Figure 4, a vertical cross-section, taken on line 4—4 of Figure 1.

In the invention, the meeting ends of adjacent rails A and B are respectively reinforced by increasing the width of the web at each rail end, the enlarged web portions 1 and 1′ thus serving to strengthen the rails at the joint or connection. The reinforcement may be effected by adding side plates to the web in order to enlarge its width or the web may be in one solid mass as represented in the drawings. One face of each enlarged web is straight and parallel with the rail web but the other face is partly beveled or sloping as shown in Figure 3. These beveled faces enable the enlarged webs of rails A and B to engage laterally of each other when the rail ends are joined. Each rail has its base flange cut away on one side to receive the projecting or tongue portion of the opposite rail, this tongue conforming to the cut out of the base flange. The cut outs are provided adjacent the sloping faces of the enlarged web and as illustrated in the drawings are so made as to leave a concaved shoulder 2 or 2′ in the base flange and adjacent the terminal of the sloping web face; the end or nose of the base flange tongue being correspondingly curved to extend forwardly of the web, as indicated at 3 and 3′. From Figure 3 of the drawing it will be seen that when the ends of rails A and B are respectively fitted together, a space 4 is provided between the rounded nose extensions 3 and curved shoulders 2, which spaces allow for the possible expansion of the rail members. Similar spaces 5 are provided upon the tread of the rail by beveling the ends or points 6 and 6′ of the tread flanges so that they are lower than the upper flat surface of the rails, consequently there will be no impact between heavy rolling stock and the tread points of the joint since the wheels will readily pass from the solid tread of one rail end over to the tread of the connecting rail end. This not only obviates the jarring loose of the jointed rail ends but also tends to maintain the firmness and stability of the rail joint.

Side plates 7 and 8 are employed for holding the beveled ends of the rail web together being disposed respectively upon the inner and outer sides of the rails. Outer plate 7 is provided with a bottom flange 9 which engages over the base flanges of the connected rail sections and supports the plate in place against the webs of the rail. The inner face of the outer plate is recessed adjacent the upper longitudinal edge to provide a shoulder or seat 10 for the rail head. The outside face is of solid construction and is provided with an upper arcuate surface 11 rising slightly higher at the center than the top of the rail to provide a wheel lift the height of the arcuate edge being elevated in accordance with the periphery of the car wheel. The raised center provides a bearing surface for the wheel which thus traverses the joint without the clicking sound ordinarily obtained at rail joints. The opposite side plate 8 fits against the webs of the rail sections upon the inside, as shown in Fig. 4, and is cut away adjacent the upper longitudinal edge to provide for the passage of the wheel flange, the upper portion 12 of the cut out engaging under the tread and the bottom 13 overlapping the rail base-flange

as shown. The inner and outer plates are connected by bolts or other fasteners, 14 extending cross-wise through openings in the rail webs and side plates and engaging nuts 15 which hold the parts in place. A bed plate 16 supports the base flanges of the connected rail sections and is provided with upwardly disposed side flanges 17 which are overlapped by the flanges 9 and 13 of the side plates, thus providing a chair in which the rail ends are firmly seated as disclosed in the sectional view in Fig. 4. Spike notches 18 are provided in the base of the chair to receive the fastening spikes which hold the chair to the tie. Each side plate is provided upon its inner web-engaging face with a vertically disposed groove 19 in which is received the lateral projection 20 of the adjacent rail web. These extensions, as shown in Fig. 3, are formed at the tip or end of the beveled web-portions and have one face in alignment with the beveled side of the web and one face at an inclination to the straight face of the web so as to provide lateral projections, the purpose of which is to provide a positive locking engagement between the extreme or extended ends of the rail webs and the side plates between which such ends are clamped; besides avoiding breakage or distortion of the rail webs at such points.

When the parts are assembled as illustrated in Figures 1 and 2 of the drawings it will be seen that the rail joint is provided with firmly held and rigid parts which obviates the bumping of the car wheels when passing the joints.

The foregoing description and accompanying drawings have reference to what might be considered to be the approved or preferred form of my invention. I desire it to be understood, however, that I make such changes in the construction, combination and arrangement of parts, materials, dimensions, et cetera, as may prove expedient and fall within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A rail joint comprising rail sections provided with relatively thickened web portions, said rail sections having beveled ends respectively overlapping, said bevel ends terminating in lateral projections extending beyond the outer face of the web portions, clamping plates on the opposite sides of the overlapping ends and provided with vertically disposed grooves to receive the said mentioned lateral projections formed on the overlapping rail sections, and means connecting the plates through the overlapping ends.

2. A rail joint comprising rail sections having adjacent ends correspondingly beveled for sliding engagement longitudinally of one another, lateral projections formed at the outer ends of the beveled rail sections, a plate on one side of the overlapped ends, and having its upper edge slightly elevated above the tread of the rails, a plate on the opposite side of the overlapped ends, said plates provided with vertically disposed grooves to receive the said lateral projections formed on the rail sections, and fastening elements disposed transversely of the overlapped ends and engaging said plates for clamping the same together.

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

JOSEPH HRUSKA.

Witnesses:
F. J. Rucks,
Geo. H. Daune.