G. E. DERING.

Railroad Rail Joint.

No. 169,239. Patented Oct. 26, 1875.

Fig. 1.

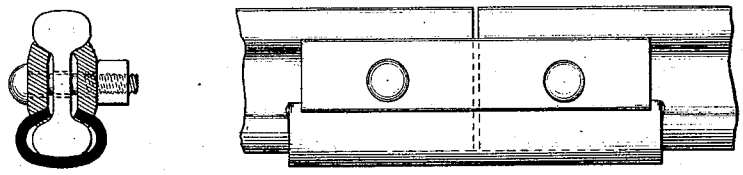
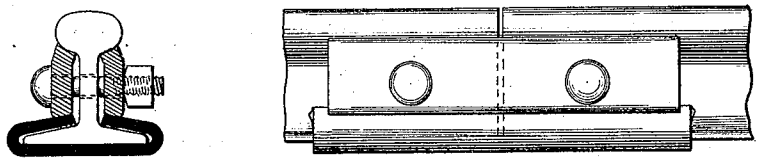


Fig. 2



Witnesses:

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E. C. Davidson

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UNITED STATES PATENT OFFICE.

GEORGE E. DERING, OF LOCKLEYS, NEAR WELWYN, ENGLAND.

IMPROVEMENT IN RAILROAD-RAIL JOINTS.

Specification forming part of Letters Patent No. **169,239**, dated October 26, 1875; application filed October 8, 1874.

To all whom it may concern:

Be it known that I, GEORGE EDWARD DERING, of Lockleys, near Welwyn, in the county of Herts, England, a subject of the Queen of Great Britain, have invented or discovered new and useful Improvements in Railroad-Rail Joints; and I, the said GEORGE EDWARD DERING, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof—that is to say:

The object in view is the production of a cheap, strong, and superior rail-joint. The improved rail-joint is intended for both double headed and flanged rails, and consists in a clip, clamp, shoe, or scabbard, which may be of steel, or iron, or Bessemer—metal of any descriptions applicable to the purpose, or any other suitable material—and either tempered or untempered, elastic or practically non-elastic, encircling tightly, loosely, or at an interval of distance, the lower head or flange, and in some cases the web, but not extending so high as the under side of the upper or working head of the rails, held in position by a pair of bolted or otherwise secured fish plates or splices, which may be of any suitable metal or material, bearing with their lower edges upon its lips and pressing them firmly in contact with the inside of the lower head or flange, and with their upper edges upon the under side of the working head of the rails, as exemplified in section and elevation in the drawings. Although other materials may be employed, it is preferred to make the clip of tempered steel, embracing the lower head or flange of the rails tightly, and the fish-plates of wrought-iron. The number of bolts and nuts, or their equivalent, may be varied according to circumstances. For greater strength and security, if considered desirable, the lips of the clip may be thickened toward their edges, the fish-plates being beveled or otherwise shaped accordingly; or they may be formed with a rib at the edge to go behind the fish-plates; or the clip may be extended a distance upward behind the fish-plates. But it is an essential and important feature of the combination that the fish plates or splices bear with their upper edge upon the rails, and with their lower edge upon the clip. If preferred, only one fish-plate might be thus employed—the clip having holes made in it for the bolts to pass through or screw into—being in such case extended upward to embrace the other side of the rails, and if thought desirable to take a bearing (on that side only on which there is no fish-plate) underneath their upper or working head, the clip thus constituting one of the fish-plates. In order to allow the rail ends to enter freely it is advisable slightly to bell-mouth both extremities of the clip by turning up the corners, as shown in the drawings, and this will also have the effect of counteracting any tendency of the clip to shift its position longitudinally under the strains to which the joint is exposed; or the same united purposes may be, perhaps, more effectually served by rolling the metal for the plates from which the clips are to be made with its edges—which will hereafter be the ends of the clips—beveled and ribbed on the opposite sides, which are to form the interior and exterior surfaces of the same respectively; or other devices might be adopted for either purpose.

If thought desirable, the fish plates or splices and clip may be formed to intersect or engage with each other transversely by means of corresponding undulations or indentations, slots and ribs, holes and pins, or by other obvious methods, the joint, as thus constructed, constituting, in effect, a compound girder having the measure of sustaining capacity derivable from the vertical depth of the combination of members, instead of possessing only the sum of strength of its component parts.

Having thus described my said invention, and the manner of carrying out the same in practice, and which is fully illustrated by the accompanying drawings, I would have it understood that what I claim is—

The improved joint for double headed and flanged rails, as described, consisting of a clip embracing the lower heads or flanges of the rails at their ends, and of fish-plates bearing at top against the lower part of the heads of the rails and at bottom upon the clip.

GEORGE E. DERING.

Witnesses:

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