

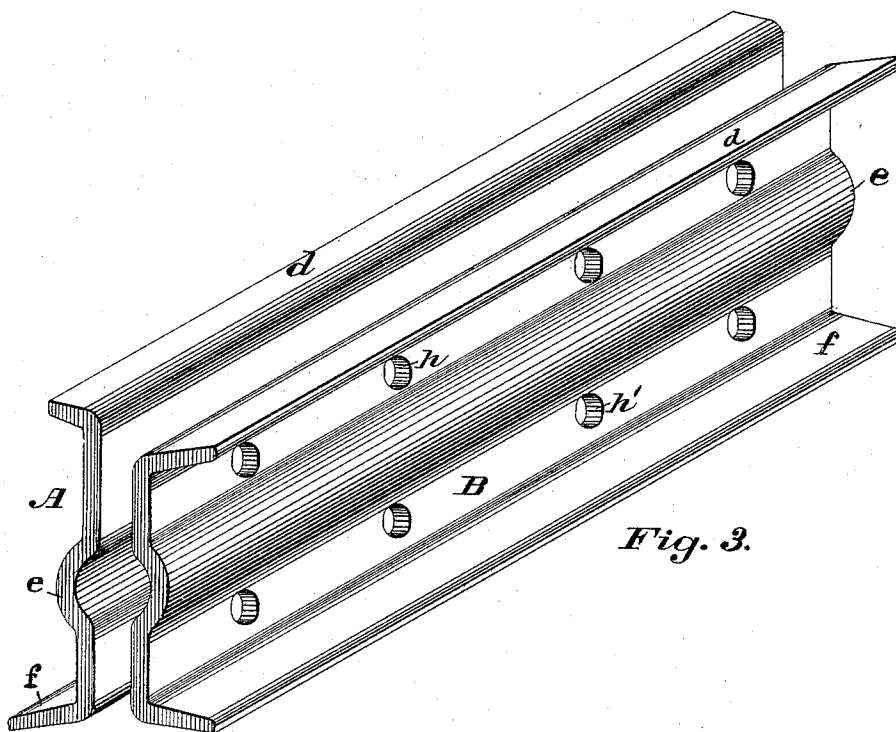
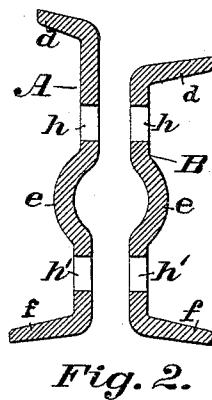
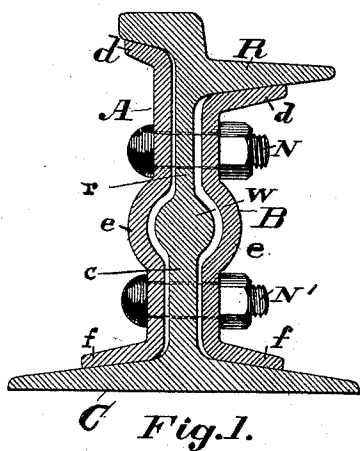
(No Model.)

2 Sheets—Sheet 1.

A. J. MOXHAM.
RAILROAD RAIL JOINT.

No. 477,689.

Patented June 28, 1892.



WITNESSES:
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W. F. Brückel,

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(No Model.)

2 Sheets—Sheet 2.

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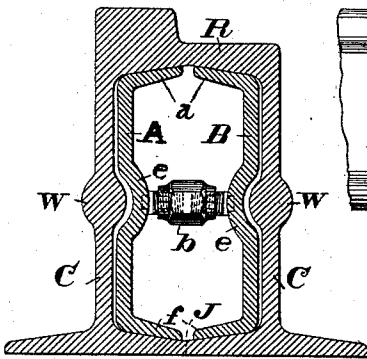


Fig. 4.

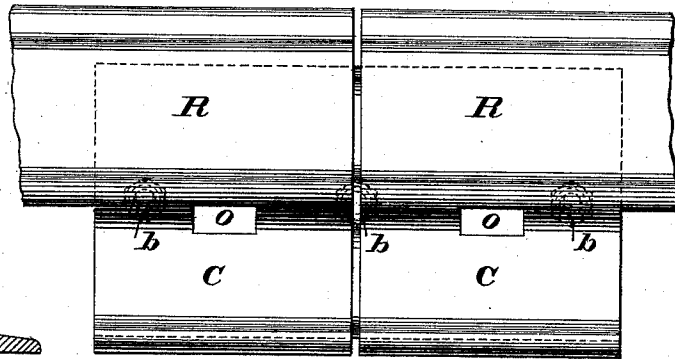


Fig. 5.

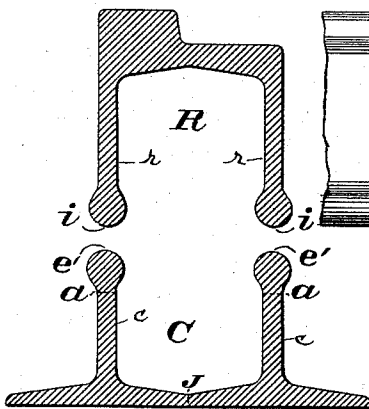


Fig. 6.

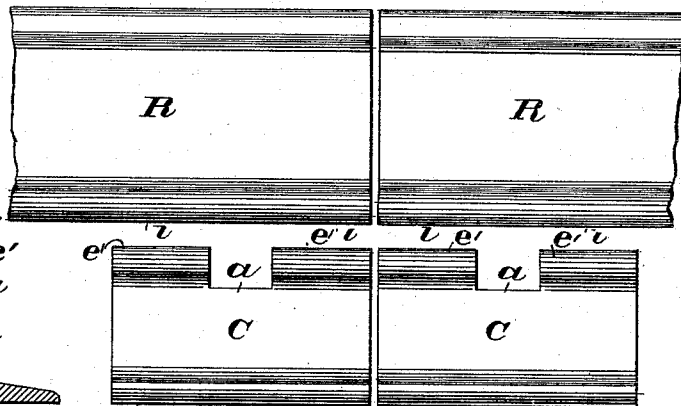
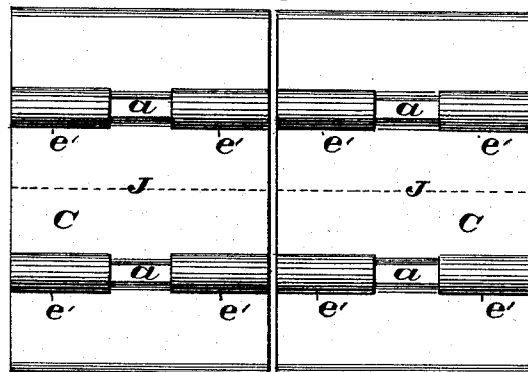


Fig. 7.

Fig. 8.



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UNITED STATES PATENT OFFICE.

ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

RAILROAD-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 477,689, dated June 28, 1892.

Application filed September 22, 1891. Serial No. 406,499. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Railroad-Rail Joint, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is sufficiently indicated by its title above given.

The preferred manner of carrying out my invention will first be described in detail, and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 shows the joint in cross-section. Fig. 2 shows in cross-section, detached, the splice-bars shown in Fig. 1. Fig. 3 shows said splice-bars in perspective. Fig. 4 shows in cross-section a modified form of joint. Fig. 5 is a side elevation of Fig. 4. Fig. 6 is a cross-section similar to Fig. 4, showing the parts before being united to each other, as hereinafter described, the splice-bars being omitted. Fig. 7 is a side elevation of Fig. 6. Fig. 8 is a view in plan, detached, of the part marked C in Figs. 4, 5, 6, and 7.

In said figures the several parts are respectively indicated by reference-letters, as follows:

The letters R indicate two girder-rails as secured by the joint. Each rail is provided at its end with a base or support C, though, if desired, said base or support might be made continuous. The rails and supports having been separately formed, the rail with a bead or bulb at the bottom of its vertical web or webs *r* and the support with a corresponding bead or bulb at the top of its web or webs *c* are then welded together at the points W, forming the single bulb shown at said points. This welding may be done by any suitable method, process, means, or act of welding.

The letters A B indicate two splice-bars, curved or offset, as shown at *e e*, to fit over the bulbs W. The upper portions of said bars are flanged, as shown at *d d*, to bear against the under part of the upper surface of the rail, and their lower portions are also flanged, as shown at *f f*, to bear against the bases or supports C.

The letter N in Fig. 1 indicates bolts passing through holes *h* in the splice-bars and the webs of the rails above the bead or bulb W, and the letter N' indicates similar bolts pass-

ing through holes *h'* in the splice-bars and the webs of the supports C below said bead or bulb. Said bolts are provided with nuts, as shown, and thus all the parts are firmly united. It will be observed that the heads and nuts of the bolts N N', Fig. 1, are located in the pockets formed in the splice-bars above and below the corrugations *e e*. By this construction said bolts do not project beyond the overhanging portion of the rail proper, and are non-obstructive to the street-paving.

Figs. 4 to 8, inclusive, show my invention as applied to a joint uniting double-web rails instead of single-web rails, as shown in the preceding figures. In this construction a double-webbed base or support C is provided, welded to the double web of the rail at the points *e' i*, thus forming the bulbs W. Said base or support, instead of being made in a single piece, as shown, may be divided at the point J and made of two pieces of T-bar, each similar in form to the base or support C, (shown in Fig. 1,) for a single-web rail.

As shown in Figs. 5 to 8, inclusive, the supports C have a portion of their bulbs *e'* cut away, as shown at *a*, thus reducing the surface to be welded, the letters *o* indicating the spaces left by such cutting away after the rails and supports have been welded together.

The splice-bars used with the double-web rails shown in Figs. 4 to 8 are of the same form as those used with the single-web rail, Figs. 1 and 3, except that they are reversed in place, and instead of being externally located are located in the interior of the rails. The under side of the upper portion of the rails R, against which bear the portions *d* of the splice-bars, are beveled, as shown in Figs. 4 and 6, the base C being similarly beveled where the portions *f* of the splice-bars have their bearings. By this means a splice-bar fit is secured when the right and left hand bolts are screwed up, forming with their interposed nut a thrust-bolt *b*. Three of such thrust-bolts are shown in Fig. 5, but more may be used, if desired. If desired, only the under sides of the upper portion of the rails may be beveled and the bevels omitted from the bases, or the bases may be beveled and the bevels omitted from the rails.

It will be observed that the deep webs of the rails herein shown are strengthened and

stiffened by the bulb formation in the centers of the webs, the exact shape of such bulb, however, being immaterial.

I do not intend to limit myself to the form of head of rail shown or to the form of base or support shown, as my invention is applicable to any form of head or base, it being necessary only that the rail should be a girder-rail provided with a suitable web, and I do not intend to limit myself, except as hereinafter specifically claimed, to a particular form of fish-plate or splice-bar, as it may be varied without departing from my invention.

Having thus fully described my said invention, I claim—

1. A railroad-rail joint consisting of two rails, each provided at its end with a foot or support welded thereto and having a bead at the welding-point, and splice-bars provided with a corrugation to pass around said bead.

2. A railroad-rail joint consisting of two rails, each provided at its end with a foot or support welded thereto and having a bead at the welding-point, and splice bars provided with a corrugation to pass around said bead and bearing against the under part of the heads and the upper surfaces of the feet of the rails.

3. A railroad-rail joint consisting of two rails, each provided with a bead on its vertical web and having a foot or support welded to its bead, and flanged splice-bars provided with a corrugation to pass around said beads, the flange portions being adapted to rest upon said foot and under the head, respectively.

4. A girder-rail provided with a single head and a double web integral therewith, having the under portion of its head and the upper portion of its base, one or both, beveled, for the purpose set forth.

5. In a railroad-rail joint, the combination, with a girder-rail provided with a single head and double web integral therewith, of interior splice-bars provided with bearings above and below.

6. In a railroad-rail joint, the combination of internal splice-bars and thrust-bolts for securing the same.

7. In a railroad-rail joint, the combination of internal splice-bars with adjusting mechanism within the rail for adjusting said splice-bars.

8. A girder-rail provided with a single head and a double web integral therewith, having the under portion of its head and the upper portion of its base, one or both, beveled, in combination with internal splice-bars bearing against said beveled surfaces.

9. A double-webbed girder-rail having the under portion of its head and the upper portion of its base, one or both, beveled, in combination with internal splice-bars bearing against said beveled surfaces and thrust-bolts for adjusting said bars.

ARTHUR J. MOXHAM.

Witnesses:

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A. J. BRYAN.