F. McFADDEN.

RAIL JOINT.

APPLICATION FILED AUG. 22, 1910.

1,001,544. Patented Aug. 22, 1911.

Fig. 1.

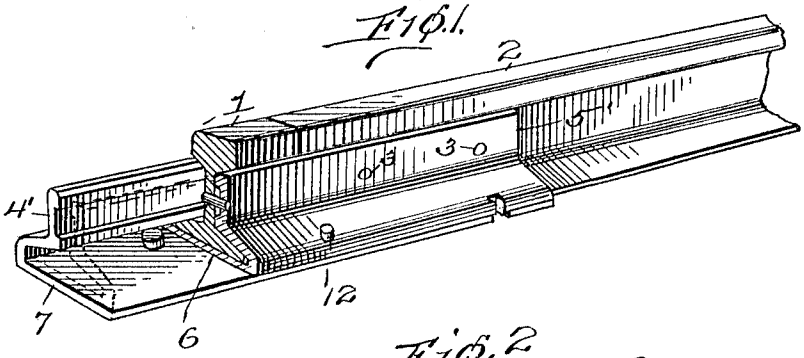


Fig. 2.

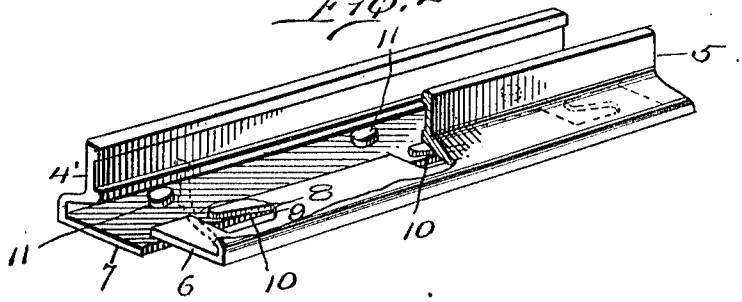


Fig. 3.

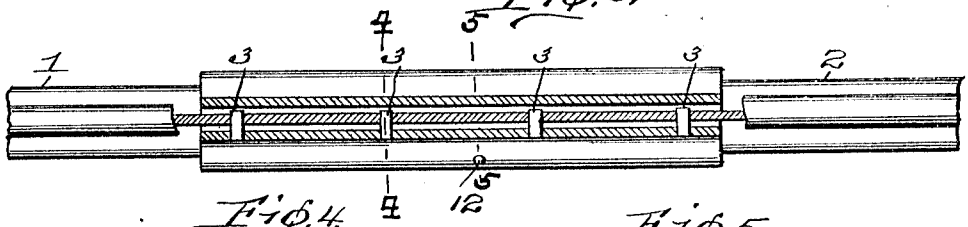


Fig. 4.

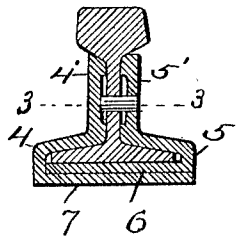
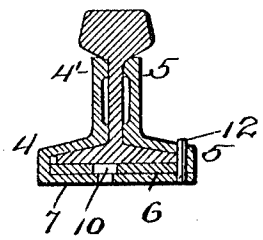


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

1,001,544. Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed August 22, 1910. Serial No. 578,293.

To all whom it may concern:

Be it known that I, FRANCIS McFADDEN, citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in rail joints, and chairs, and particularly to means for securing the various parts together.

The object in view is the arrangement of a combined fish plate structure having connected therewith means for engaging the abutting ends of rails and the arrangement of chairs or chair portions adapted to engage means for forcing together and holding together the chair portions when the same have been placed in position.

A further object of the invention is the arrangement of a device for securing together the ends of rails formed with a fish plate portion and a chair portion, together with studs or projections extending from the fish plate portion into the rails, and studs fitted into one part of the chair portion for engaging a cam shaped cut out portion or notch in the other part of the chair portion.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a perspective view of an embodiment of the invention shown in position, certain parts being broken away. Fig. 2 is a perspective view of an embodiment of the invention, the parts thereof being shown slightly separated, and certain parts broken away. Fig. 3 is a section through Fig. 4 on line 3—3. Fig. 4 is a section through Figs. 1 and 3 on line 4—4. Fig. 5 is a section on line 5—5 of Fig. 3.

Referring to the accompanying drawings by numerals, 1 and 2 represent abutting rails which are provided with any suitable number of apertures for accommodating pins 3. The pins 3 are supported by one of the fish plate portions of the device, and are connected therewith in any desired manner, as for instance, by being forced therein, so as to be rigidly held in position. These pins project through the webs of the rails 1 and 2, and take the place of the ordinary bolts, though if desired they may be omitted and yet the rails held properly in position.

The device comprises principally parts 4 and 5 which parts comprise fish plate portions 4′ and 5′ as well as chair portions 6 and 7. The chair portion 6, when in position, overlaps chair portion 7, and is formed with a plurality of notches 8 merging into a slot or guide-way 9 having an inclined face 10 on one side thereof. Inclined faces 10 are designed to engage the respective studs or pins 11 which are rigidly secured to chair portion 7. As will be clearly seen from Fig. 2, part 5 is pushed laterally toward part 4 when assembling the device until the studs 11 have passed through notch 8. After this has occurred part 5 is forced longitudinally by any desired means, as for instance a sledge-hammer, and studs 11 caused to move along the surfaces of the inclined faces 10. This will cause the parts 4 and 5 to be drawn together and to clamp the rails 1 and 2 therebetween. In order to prevent any reverse movement a pin 12 may be used for holding the parts 4 and 5 in position, though ordinarily the spikes will accomplish this result. It will be observed, particularly in Fig. 1, the notches for the spikes in chair portion 7 are larger than the notches in chair portion 6, so that the spikes may be properly fastened in position, and part 5 permitted a slight adjustment. Of course, if desired the spike notches could be made the same size, so as to positively insure against any movement of either of the parts 4 or 5, independent of the spikes. By the arrangement of the pins 3 the rails 1 and 2 are held together end for end properly, and by the arrangement of the studs 11 the fish plate portions 4′ and 5′ are held properly in position, and consequently the pins 3 are prevented from being removed.

It will be observed that in placing the device in position, either the first time or in making repairs, part 5 is placed in position first and pins 3 caused to pass into the apertures in the rails. The part 4 then may be spiked in position if desired. Part 5 is then forced transversely or laterally toward part 4, so as to cause the studs 11 to

enter notches 8, and to eventually engage the inclined surfaces 10.

By this structure it will be readily seen that the device is quickly adapted for use in repairing as in providing a joint for new tracks. Also by the arrangement of the pins 3, or by the elimination of the same if desired, no fastening means are presented for being knocked off by the pony of an engine or by any of the wheels of any of the cars at any time.

What I claim is:

1. In a device of the character described, a pair of members formed with fish plate portions and chair portions, the chair portion on one of said members being formed with notches therein having one of the walls thereof inclined, a plurality of studs rigidly secured to the chair portion of the other of said members and arranged to engage the inclined surfaces of said notches for drawing and holding together said fish plate portions, and pins projecting from said fish plate portions for engaging rails for holding the same together end for end, said fish plates having notches therein to receive the spikes to secure said fish plates to the ties, an aperture through the flanges of each of the fish plates, and a pin adapted to be inserted through said aperture and lock the plates against longitudinal movement in the absence of a spike in said notches in said fish plates.

2. In a device of the character described, a pair of members formed with chair portions and fish plate portions, a plurality of lugs secured to the chair portion of one of the members and extending vertically, and a plurality of lugs secured to the other of said members and extending horizontally, the member carrying the horizontal lugs being formed with notches having one wall thereof inclined, said notches accommodating said vertically extending lugs for drawing and holding together said members and said horizontal lugs passing through the ends of the abutting rails for holding the same together end for end, said member carrying said horizontal lugs having registering apertures in the flange of the fish plate and chair, the other member having an aperture in the chair thereof in registration with the apertures in the other member, and a pin adapted to pass through said apertures and lock the members against longitudinal movement, each of said members being formed with spike notches registering so that the spikes on each side of the device engage both of the members for holding the same against longitudinal movement in respect to each other as well as for holding the same to the supporting ties.

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

FRANCIS McFADDEN.

Witnesses:

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