

W. WALLACE.
RAILWAY RAIL JOINT.
APPLICATION FILED JUNE 21, 1909.

939,358.

Patented Nov. 9, 1909.

2 SHEETS—SHEET 1.

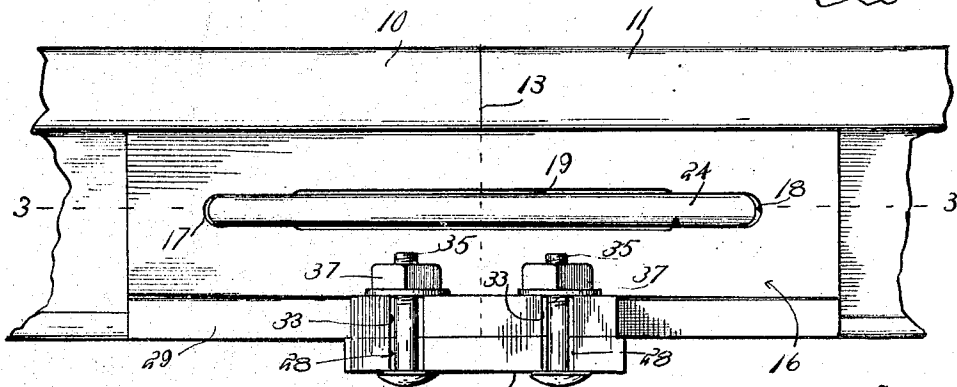
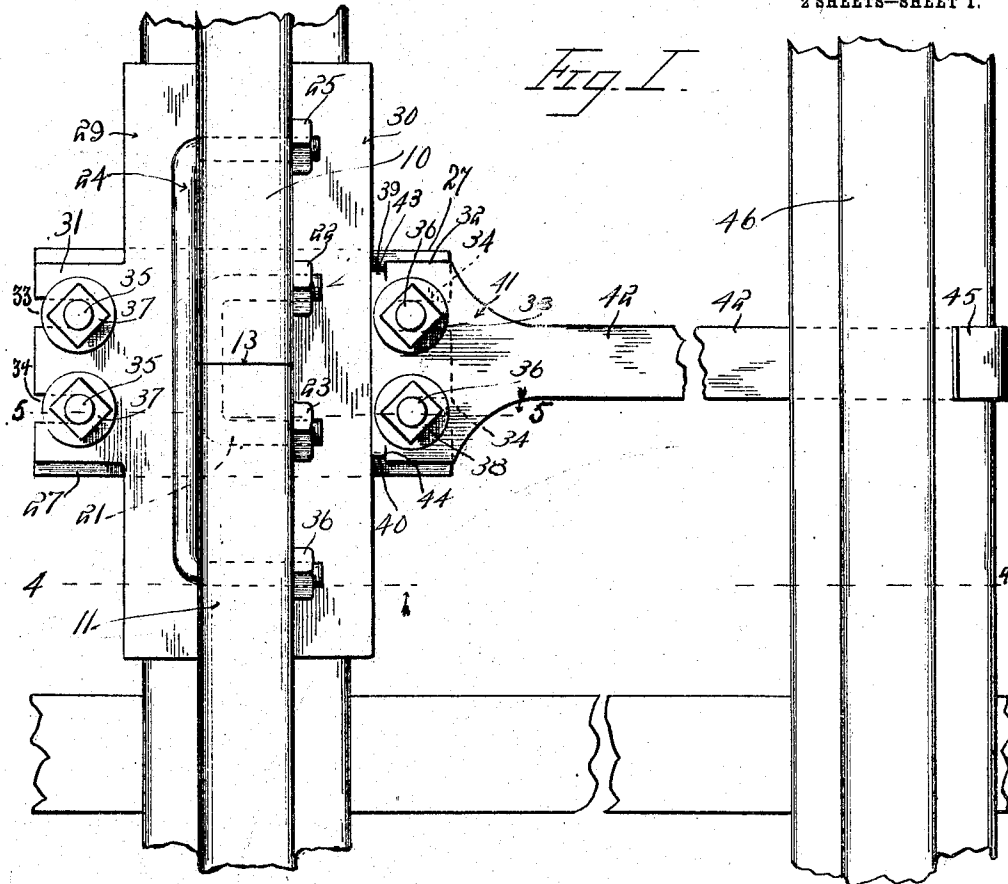


Fig. 2.

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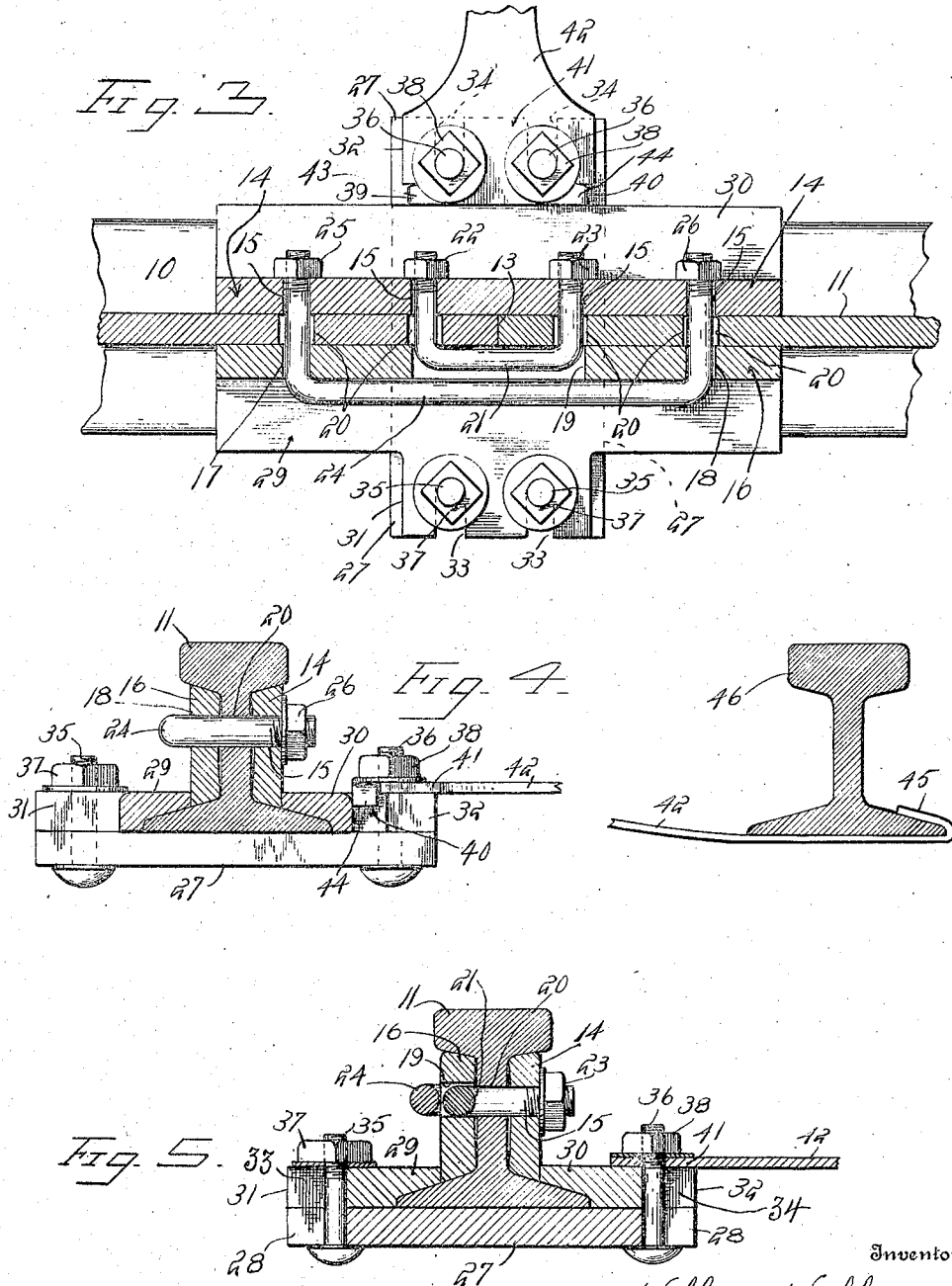
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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE, OF SYDNEY, NOVA SCOTIA, CANADA.

RAILWAY-RAIL JOINT.

939,358.

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To all whom it may concern:

Be it known that I, WILLIAM WALLACE, a subject of the King of England, residing at Sydney, Cape Breton, in the Province of Nova Scotia, Dominion of Canada, have invented certain new and useful Improvements in Railway-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 railway rail joints and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to not only provide a rigid support for the rails and their joints but also to tie the rails together to prevent spreading.

With these and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a plan view of a portion of a railway track including the rails and one of the ties with the improvement applied. Fig. 2 is a side elevation of two rail ends, with the improved joint applied. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 1.

In the drawings the rails are represented by the characters 10—11, of the usual form, the joint between two of the rails being indicated at 13. Bearing upon the inner face of the vertical webs of the rails at the joint is a clamp or "fish plate" 14 of the usual form, and provided with a plurality of spaced transverse apertures 15 to receive the clamping means, as hereafter explained. Bearing upon the opposite side of the rail is another clamp or fish plate 16, the latter having apertures 17—18 near its ends, and a relatively long slot 19 centrally of the plate. The vertical webs of the rails 10 are provided with transverse elongated apertures 20 with which the apertures in the clamp plates register, and likewise with which the slot 19 registers at its ends as shown in Fig. 3. Fitting in the slot 19 is a relatively short U-bolt 21 with its terminals threaded and extending through two of the slots 20 at opposite sides

of the joints 13 and likewise through two of the apertures 15 of the fish plate 14 and provided with clamp nuts 22—23 bearing upon the outer face of the member 14. Bearing against the outer face of the member 16 and likewise extending over the U-bolt 21, is a relatively long U-bolt 24 having its terminals threaded and extending through the apertures 17—18 of the member 16 and likewise through the outer slots 20 and the outer apertures 15 and provided with clamp nuts 25—26 bearing against the outer face of the clamp plate 14. The lower edges of the plates 14—16 extend to and engage the upper faces of the tie flange portions of the rails as shown in Figs. 2, 4 and 5.

Bearing beneath the rails 10—11 at the joint 13 is a supporting plate 27 having open recesses 28 in its ends, and bearing upon the tie flanges of the rails are other plates 29—30, the inner edges of the plates 29—30 likewise bearing against the outer faces of the fish plate 14—16, as shown. The plates 29—30 are directed downwardly over the outer edges of the tie flanges of the rails and bear upon the plate 27, and are likewise provided with lateral projections 31—32 centrally thereof, the projections also bearing upon the plate 27, as shown. The extensions 31—32 are provided with open recesses 33—34 corresponding to the recesses 28 of the plate 27. Clamp bolts 35—36 extend through the recesses 33—34, and are provided with clamp nuts 37—38, whereby the members 27—29—30 are firmly clamped together. By means of the open recesses the members 29—30 together with their extensions are adjustable toward and away from the rails, as required. The extension 32 is provided with cavities 39—40 at its juncture with the member 30, and bearing upon the extension 32 is the laterally extended end 41 of a brace bar 42. The extended end 41 is provided with apertures fitting over the bolts 36, and is held in position by the clamp nuts 38. The extension 41 is likewise provided with downwardly directed lips 43—44 extending into the recesses 39—40, and thereby materially assisting in holding the brace member from lateral movement, and relieving the bolts 36 largely from lateral strains. At its outer end the brace member 42 extends beneath the opposite rail 10 and is bent around the outer tie flange as shown at 45. By this

means the rails 10—11 and the rail 46 are firmly tied together, and effectually prevented from lateral or spreading movement.

It will be noted that a very strong rigid coupling is produced whereby the joint between the rails is firmly united, and held from displacement under the severe strains to which devices of this character are subjected, and wherein all of the parts coact to support each other.

The plates 14—16 together with the clamp devices 21—24 may be of any required length, and the parts adapted without material structural changes to rails of various sizes and weights, as will be understood.

What is claimed is:—

1. A railway rail joint comprising a supporting member extending beneath the rail ends, and provided with open recesses in the ends, clamp plates bearing against the vertical webs, clamp members bearing upon the tie flanges and against the clamp plates and provided with extensions engaging upon the supporting member, said extensions having open recesses in the sides registering with the recesses of the supporting member, clamp bolts operating through said registering recesses, and connecting means between the clamp plates and operating through the vertical webs of the rails.

2. A railway rail joint comprising a supporting member extending beneath the rail ends, clamp plates bearing against the vertical webs, one of said clamp plates having an intermediate longitudinal slot, and trans-

verse apertures near the ends, and the other clamp plate having transverse apertures registering with the apertures and slot of the first mentioned plate, clamp members bearing upon the tie flanges and against the clamp plates and provided with extensions engaging upon the supporting member, connecting means between the supporting member and the clamp members, a relatively short U-bolt fitting in the slot of the clamp plate and extending through the apertures of the clamp plate, and a relatively long U-bolt extending by its terminals through the apertures of the clamp plates.

3. A railway rail joint comprising a supporting member extending beneath the rail ends, clamp plates bearing against the vertical webs, clamp members bearing upon the tie flanges and against the clamp plates and provided with extensions engaging upon the supporting member, connecting means between the supporting member and the clamp members, connecting means between the clamp plates and operating through the vertical webs of the rails, and a brace member connected at one end to one of said clamp members and adapted to be coupled to the opposite rail at its other end.

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

WILLIAM WALLACE.

Witnesses:

JOHN E. KEHL,
A. M. MACKENZIE.