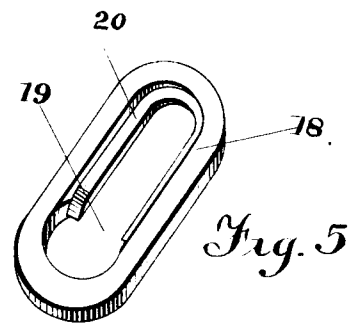
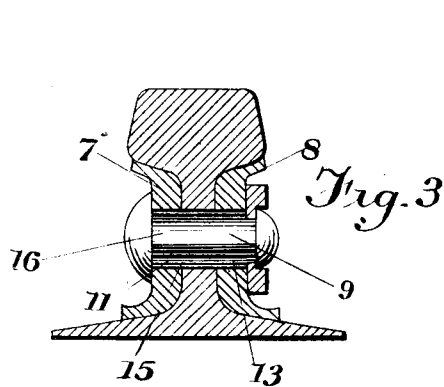
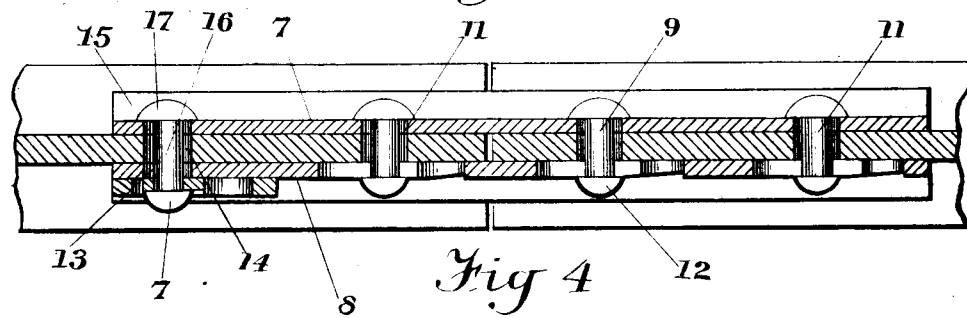
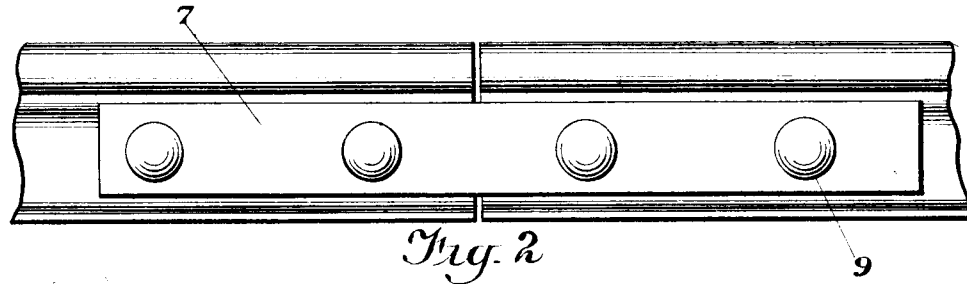
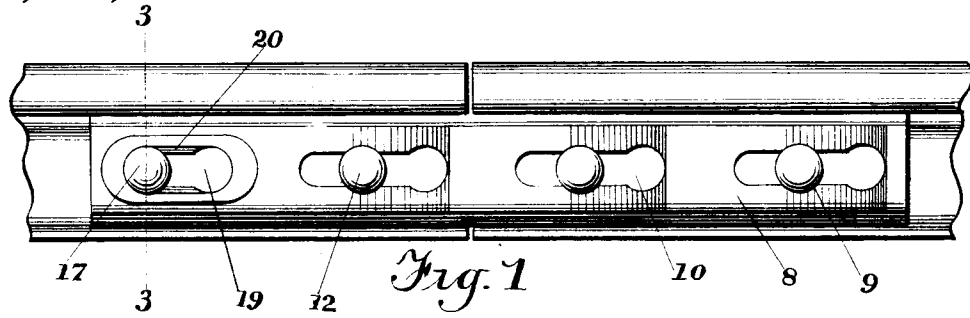


1,033,677.

Patented July 23, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN GEORGE DAY, OF DENMAN ISLAND, BRITISH COLUMBIA, CANADA.

FISH-PLATES.

1,033,677.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed August 8, 1911. Serial No. 642,919.

To all whom it may concern:

Be it known that I, JOHN G. DAY, a subject of the King of Great Britain, residing at Denman Island, in the Province of British Columbia and Dominion of Canada, have invented new and useful Improvements in Fish-Plates, of which the following is a specification.

The invention relates to a rail joint, and more particularly to the class of fish plates for railway rails.

The primary object of the invention is the provision of a device of this character in which the fish plates will be securely fastened at opposite sides of the meeting ends of railway rails, so as to prevent the separation thereof, or the lateral spreading of the same.

Another object of the invention is the provision of a device of this character in which the fish plates may be fastened, without the use of bolts or nuts of the ordinary well-known type.

A further object of the invention is the provision of a device of this character which is simple in construction, thoroughly reliable and efficient in its purpose, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a side elevation of the meeting ends of railway rails, showing the device applied thereto, constructed in accordance with the invention. Fig. 2 is a side elevation of the meeting ends of the railway rails, showing the device applied thereto, and looking toward the opposite side thereof from that shown in Fig. 1. Fig. 3 is a sectional view on the line 3-3 of Fig. 1. Fig. 4 is a transverse longitudinal sectional view through the meeting ends of the rails and the device. Fig. 5 is a perspective view of the locking ring.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, 5 and 6 designate the meeting ends, respectively, of railway rails which are of the ordinary well-known construction, against opposite faces of the webs of which are fixed

fish plates 7 and 8, respectively, the webs of the rails being provided with suitable apertures, through which are passed bolt-like members 9, the same also passing through key-hole shaped slots 10 in the plate 8, and openings 11 in the plate 7, each bolt-like member 9 being provided with heads 12 at opposite ends thereof, so that when the bolt members are engaged in the smaller ends of the key-hole shaped slots 10 in the plate 8, the same will be securely locked for the fastening of the plates and the rail ends together, the plate 8 being shifted longitudinally of the rail ends, so that it will lock the bolt-like members. Near one end of the plate 8 is formed an opening 13 which is adapted to register with a similar opening 14 formed in one rail end when the said plate has been shifted for locking the bolt member, and also formed in the plate 7 is an opening 15 which is adapted to register with the opening 14, and through these openings is passed a locking bolt 16, the latter being provided at each end with a head 17. Engaged with the locking bolt 16 is a locking ring or member 18, the same being provided with a key-hole shaped slot 19, the smaller portion of which, in opposite walls thereof, is provided with web shoulders or ribs 20, which are adapted to engage between one head 17 of the locking bolt 16 and the fish plate 8 for securely locking the said bolt 16 in the fish plate and the rail end adjacent thereto. Thus, in this manner, the plate 8 will be prevented from longitudinal displacement, thus obviating any possibility of the bolt-like members 9 becoming loose, which would result in the possible freeing of the fish plates.

In the application of the device to the meeting ends of the rails 5 and 6, it is necessary to bring the latter together, whereupon the plates 7 and 8 are disposed at opposite sides of the webs of the rail ends, whereby the openings 11 in the plates 7 are brought into register with the openings in the webs of said rails, and likewise the larger ends of the key-hole shaped slots 19 are brought into register with the said openings in the webs of the rails, and passed through these openings are the bolt members 9, whence the plate 8 is shifted longitudinally of the rail, so that the heads 12 of the bolt members, contiguous to the plate 8, will straddle the smaller portions of the slots 19 when the said bolt members

are engaged therein, thereby locking the bolt members in the plates and connecting the rail ends together. The bolt member 17 is passed through the openings 13, 14 and 15 in the plates and web, respectively, of one rail, whereupon the locking ring 18 is engaged with the said bolt member 16 by passing one head 17 thereof through the larger end of the key-hole shaped slot 19 in the locking member, and on moving the ring member 18 in one direction, the head 17 of the bolt adjacent thereto will ride upon the ribs 20, causing the ring member to become wedged between the said head and the plate 18, thereby locking the plates and rail ends together, without any possibility of longitudinal displacement of the plate 8 or the loosening of the bolt members.

To remove the fish plates, it is only necessary to disengage the ring or member 18 from the bolt 16, whereupon the said bolt is removed from the registering apertures in the fish plates, and the adjacent rail end. Then, it is only necessary to move the fish plate 8 in a direction so that the bolt-like members 9 will engage in the larger ends of the slots 10, whence the said bolt members 9 may be readily removed for the detachment of the fish plates, as will be clearly obvious.

What is claimed is:

1. The combination with the meeting ends of railway rails, of a pair of fish plates disposed at opposite sides thereof,

double headed bolt like members passed through the rail ends and engaged in the fish plates, one of said fish plates being provided with key-hole shaped slots receiving the double headed bolt members, a locking bolt member passed through the fish plates and one of said rail ends, and a locking ring engaged with the locking bolt for fastening the same in the fish plates and adjacent rail end.

2. The combination with the meeting ends of railway rails, of a pair of fish plates disposed at opposite sides thereof, double headed bolt like members passed through the rail ends and engaged in the fish plates, one of said fish plates being provided with key-hole shaped slots receiving the double headed bolt members, a locking bolt member passed through the fish plates and one of said rail ends, and a locking ring engaged with the locking bolt for fastening the same in the fish plates and adjacent rail end, the said locking ring being provided with a key-hole shaped slot having in opposite walls at the smaller portion thereof wedging ribs adapted to engage between one head of the locking bolt and the adjacent fish plate for securing the said bolt against displacement.

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

JOHN GEORGE DAY.

Witnesses:

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H. H. M. BEADNELL.