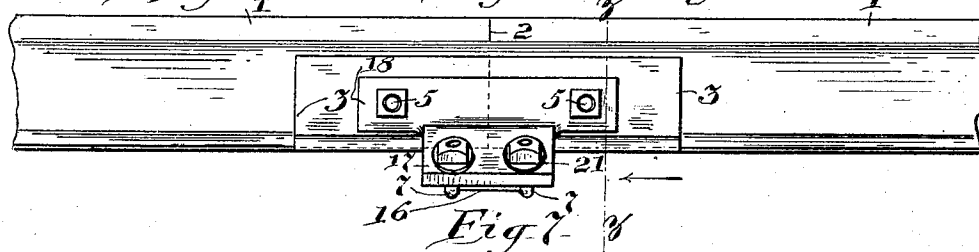
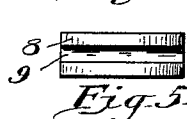
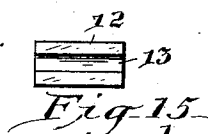
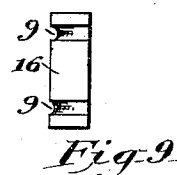
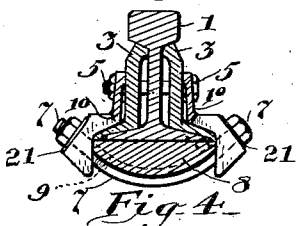
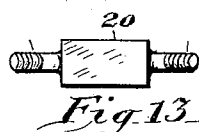
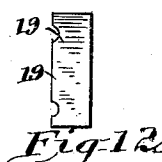
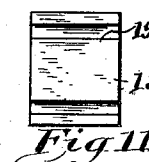
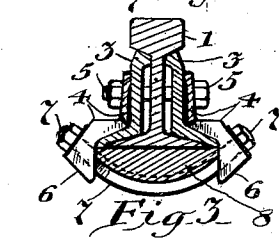
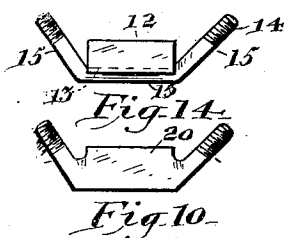
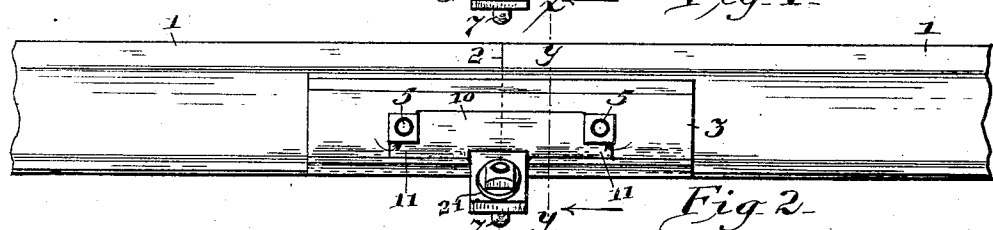
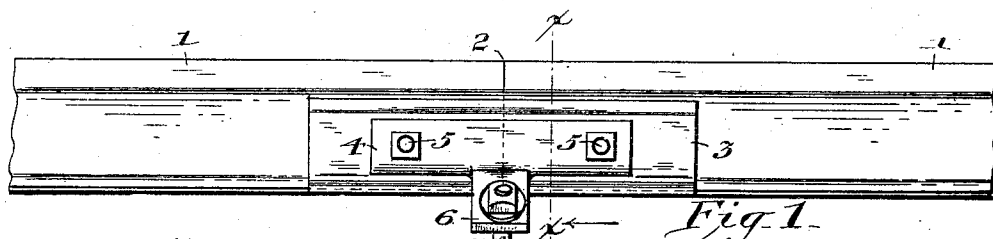


RAIL JOINT.

938,167.

Patented Oct. 26, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

938,167.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed November 4, 1908. Serial No. 461,065.

To all whom it may concern:

Be it known that I, ALFRED H. NEWPHER, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in rail joints, and has for its object to provide a rail joint which will prevent lateral and vertical movement between the contiguous ends of abutting rails.

A further object of my invention is to provide a nut-lock for the rail bolts.

Other objects will appear hereinafter.

With these objects in view, my invention consists essentially in reinforcing means for the ordinary angle-iron construction of rail joints. And my invention further consists in various details of construction and arrangement of parts all as will be hereinafter more fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of my improved rail joint in its preferred form, Fig. 2 is also a side elevation showing a modification comprising a nut-lock, Fig. 3 is a transverse section taken on the line $x-x$ of Fig. 1, or line $z-z$ of Fig. 7, Fig. 4 is a transverse section taken on the line $y-y$ of Fig. 2 showing the nut-lock modification, Fig. 5 is a detail bottom elevation, Fig. 6 is a detail side elevation, Fig. 7 is a side elevation showing a modification consisting of a construction similar to that shown in Fig. 1, except that additional securing means are used, Fig. 8 is a detail bottom elevation, Fig. 9 is a detail side elevation, Fig. 10 is a detail end elevation, Fig. 11 is a detail bottom elevation, Fig. 12 is a detail side elevation, Fig. 13 is a detail top elevation, Fig. 14 is a detail end elevation, and Fig. 15 is a detail bottom elevation.

Referring now to the drawings, 1—1 indicate the rails whose contiguous ends abut at 2. The angle-irons are of ordinary construction and are shaped to conform to the head and foot portions of the rails when in position. Angle plates 4 are secured to the angle-irons 3 by means of the bolts 5 which also pass through the rails 1. (See Figs. 1 and 3.) The angle plate 4 conforms to the

angle-iron 3 and is provided with a downwardly extending portion 6 perforated to receive a transversely disposed bolt 7. A block 8 having a flat surface to fit snugly to the lower surfaces of the rail ends is provided with a curved surface having a fluting or groove 9 forming a liberal bearing contact with the bolt 7. Thus it is clear that when the nut is tightened on the bolt 7, the block 8 will be forced into close engagement with the lower surface of each rail. And it is also clear that if the lower rail surfaces are maintained in alinement, the tread of the rails will also have a proper relative position.

The modified form of the angle plate 10 is similar to the angle plate 4, except that the bolts 5 do not pass through the same, this construction being used when it is desired to form a nut-lock for the nuts on the bolts 5. To this end the plate 10 is notched to receive the nuts on the bolts 5, which nuts are secured in position before the plates 10 are applied. The plate 10 when applied forms an efficient nut-lock, and as the portions 11 of the plate 10 press upwardly against the nuts on the bolts 5 when the nut on the bolt 7 is tightened, said plate will remain in proper position. Instead of the block 8 a rectangular block 12 having a fluting or groove 13 may be used, in which case a threaded rod 14 having straight portions 15 to conform with the straight groove 13 is used to perform the same function as the bolt 7.

The modification shown in Fig. 7 comprises a block 16 which is similar to the block 8, except that two grooves instead of one are provided. Two bolts 7 are provided, and the construction is otherwise similar to that shown in Fig. 1, except that the downwardly extending portion 17 integral with the angle plate 18 is provided with two perforations to receive the bolts 7. Blocks 19 and threaded rods 14 may be used in the latter case, if desired. The forging 20 forming a one-piece construction, shown in Figs. 10 and 13, is equivalent to and may be used instead of the rod and block construction shown in Fig. 14. The circular portions 21, shown in angle plates 4 and 18, may be integral with the same or separate washers, as desired.

While I have shown what I deem to be the preferable form of my device, I do not wish to be limited thereto, as there might be many changes made in the details of con-

struction and arrangement of parts without departing from the spirit of my invention.

Having described my invention what I claim as new, and desire to secure by Letters Patent, is:

5 1. In a device of the class described, in combination with rails and angle-irons, a pair of angle plates shaped to conform to said angle irons, a perforated downwardly
10 extending portion in each of said angle plates, a bolt connecting said downwardly extending portions, and bolts extending through said angle plates, rails and angle-irons securing the same together, substan-
15 tially as described.

2. In a device of the class described, the combination with the abutting ends of rails and angle-irons therefor, a pair of angle
20 plates shaped to conform to said angle-irons, downwardly extending portions in said angle plates, bolts securing said angle plates to said rails and angle-irons, a block having a flat face in contact with the lower surface of
25 said rails adjacent their abutting ends, grooves formed in said block, and a bolt or rod connecting said downwardly extending

portions and adapted to seat in said grooves and to force said block upwardly against the rails, whereby the tread of the rails is main-
30 tained at the same level, substantially as described.

3. In a device of the class described, rails and angle-irons disposed at each side of the ends thereof, angle plates shaped to conform to said angle-irons and provided with down-
35 wardly extending portions or lugs, said lugs being provided with perforations to receive bolts or rods adapted to extend across under the rails and to seat on a curved block adapt-
40 ed to cover the joint between the rails on the underside of their adjacent ends, and bolts adapted to secure said angle plates to said angle-irons and rails, substantially as de-
scribed.

In testimony whereof I have signed my
45 name to this specification in the presence of two subscribing witnesses.

ALFRED H. NEWPHER.

Witnesses:

JANET E. HOGAN,
H. F. LILLIS.