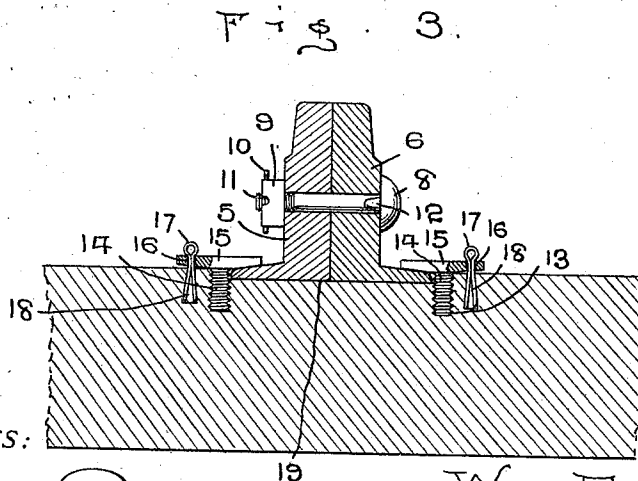
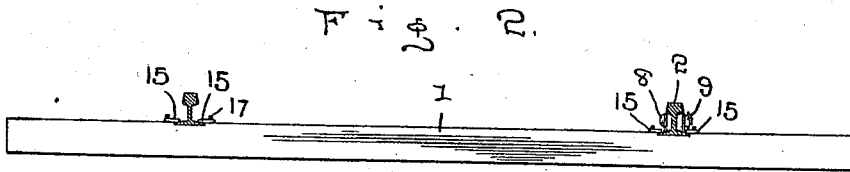
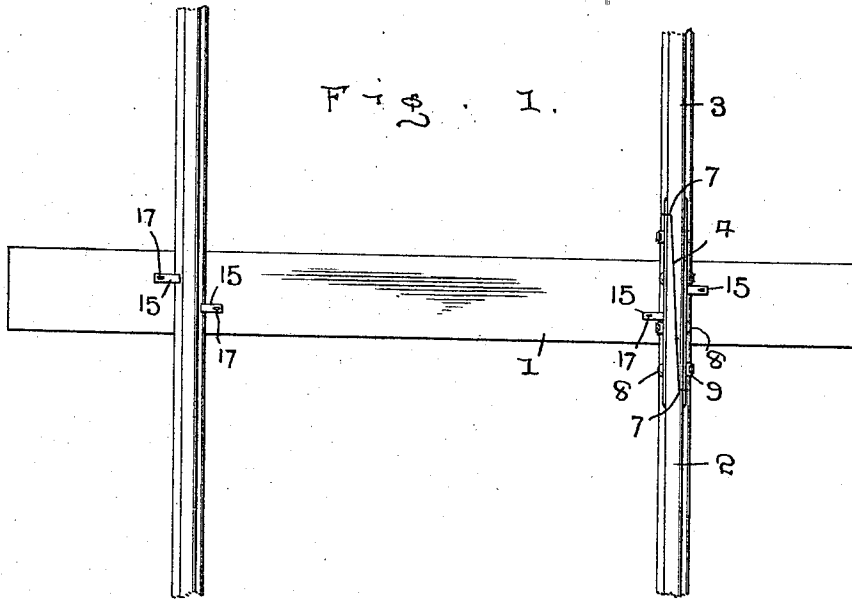


W. ARNDT.
STEEL RAIL JOINT.
APPLICATION FILED MAR. 7, 1910.

965,429.

Patented July 26, 1910.



WITNESSES:

Thos. W. Riley
M. Newcomb

INVENTOR

W. Arndt

BY

W. J. Fitzgerald & Co.
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM ARNDT, OF GOSHEN, INDIANA.

STEEL-RAIL JOINT.

965,429.

Specification of Letters Patent.

Patented July 26, 1910.

Application filed March 7, 1910. Serial No. 547,869.

To all whom it may concern:

Be it known that I, WILLIAM ARNDT, a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Steel-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.

My invention relates to new and useful improvements in track rails and supporting ties therefor and my object is to provide joints at the meeting ends of said rails, whereby a splice will be formed between the rails.

A further object is to so construct the meeting ends of the rails that the usual form of fish plate may be dispensed with.

A further object is to provide means for securely attaching the rails to the ties, and, a further object is to provide means for locking the rail securing mechanism to prevent the same from working loose.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a top plan view of a section of road way showing my improved form of rail securing mechanism. Fig. 2 is a transverse sectional view thereof, and, Fig. 3 is a transverse sectional view through the rails and tie on an enlarged scale.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a tie, which is preferably constructed of metal and 2 and 3 indicate the rails resting thereon. The meeting ends of the rails are preferably cut diagonally, as best shown at 4 in Fig. 1 so that when the meeting ends of the rails are joined together, an elongated joint or splice will be formed.

The overlapping portions of the rails are increased in thickness to form integral fish plates 5 and 6, which is accomplished by increasing the thickness of the webs of the rails, said thickened portions being slightly greater in length than the overlapping portions of the ends of the rails. At the inner end of the thickened portions of the rails are formed shoulders 7, against which the outer ends of the rails are adapted to rest,

thereby obviating the possibility of the flanges of the wheels passing between the faces of the meeting ends of the rails, should said rails slightly separate from contraction. It will likewise be seen that by making the elongated joint, as shown, a substantially continuous rail will be provided and the usual pounding incident to the wheels passing over straight joints will be eliminated. The ends of the rails are secured together by introducing bolts 8 transversely through the integral fish plates and applying to the threaded ends thereof nuts 9, which nuts are prevented from leaving the bolts by means of split keys 10, which keys pass through openings in the bolts and are seated in notches 11 in the outer faces of the nuts and the bolt is prevented from rotating by providing lugs 12 thereon, as best shown in Fig. 3 of the drawings.

The rails are secured in position on the ties 1 by providing said ties with threaded sockets 13, into which are introduced threaded stems 14 of rail securing bolts 15, said bolts being preferably T shaped and are adapted to overlap the flanges of the rails. As the upper faces of the flanges are inclined, the lower faces of the head of the bolt are likewise inclined so that one section of the head will be firmly seated on the face of the flange when the head is turned at right angles to the trend of the flange and in order to prevent the bolt from turning after the same has been seated in the socket, one end of the head is provided with an opening 16 through which extends a split key 17, the lower end of the key entering a seat 18 in the tie and it will be readily seen that when the bolt is locked in engagement with the flange of the rails and the key is introduced through the opening in the bolt head and into its seat in the tie, said bolt will be held against rotation until such time as the key is removed.

In addition to engaging the rails with the bolts to hold the rails in position on the tie, the bases of the rails are entered in transversely disposed channels 19 extending across the face of the tie, thus preventing the rail from moving sidewise independent of the tie.

By securing the ends of the rails together in the manner shown and providing the integral fish plates, the joint between the ends of the rails will be as solid as any other portion of the rails and by this ar-

rangement, but one tie is required below the joint of the rail, thus saving the expense of an extra tie to properly support the ends of the rails.

- 5 This form of rail can be as cheaply produced as the common form of rail and the equipment can be supplied at a less cost in view of the fact that the fish plates are integral therewith and it will likewise be
10 seen that the rails can be quickly applied to use and attached to the tie and said rails can be renewed at any time with a minimum expenditure of labor.

What I claim is:—

- 15 1. The combination with a tie having a transverse channel therein and a rail seated in said channel, said tie also having sockets therein; of bolts adapted to have threaded engagement with said sockets, a portion of
20 the heads of said bolts being in engagement with said rail and the opposite portion thereof having openings therein, said tie being also provided with seats, and keys

adapted to be inserted through said openings and have the ends thereof held within 25 said seats, for the purpose described.

2. In a device of the class described, the combination with rails having their meeting ends disposed at an angle, fish plates integral with said meeting ends, bolts 30 adapted to lock said meeting ends together, a tie adapted to extend below said meeting ends, said tie having sockets therein, T shaped bolts having their stems threaded to enter said sockets, one end of the heads 35 of the bolts engaging the rails and means engaging the opposite ends of the bolt heads and the tie adapted to hold said bolts against rotation.

In testimony whereof I have signed my 40 name to this specification in the presence of two subscribing witnesses.

WILLIAM ARNDT.

Witnesses:

WILL H. ALEXANDER,
LOU W. VAIL.