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Fig. 1.

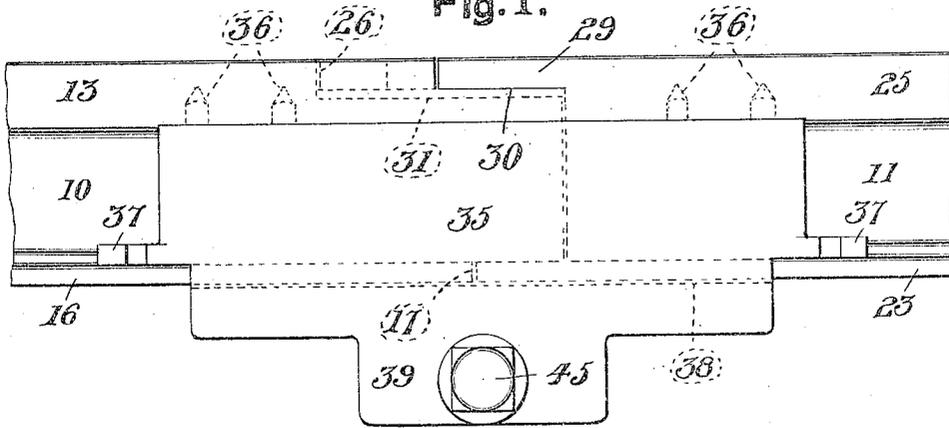


Fig. 2.

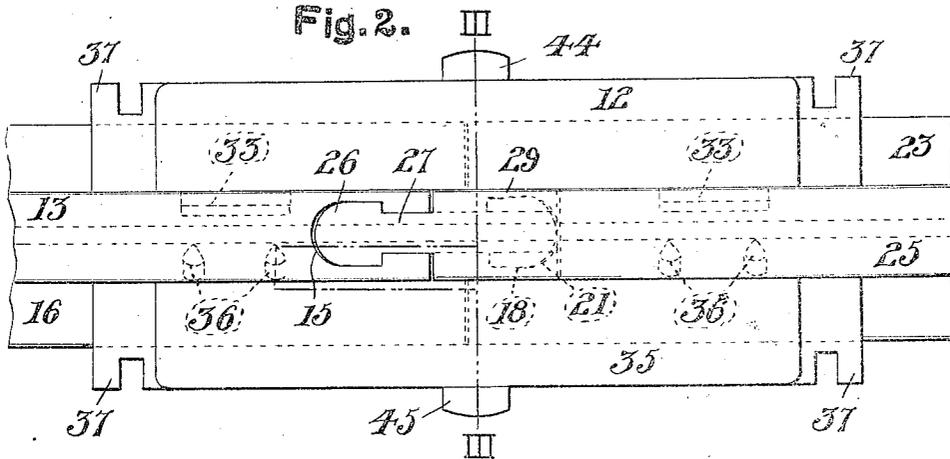
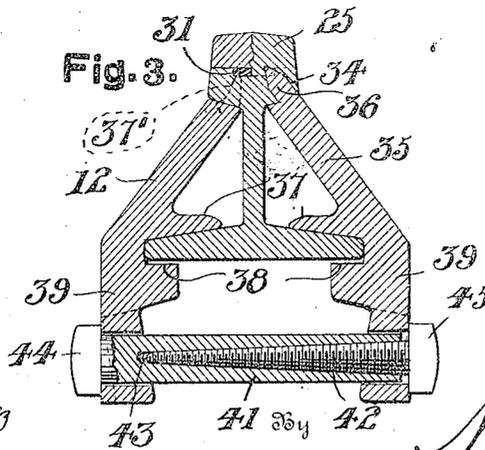


Fig. 3.



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Witnesses

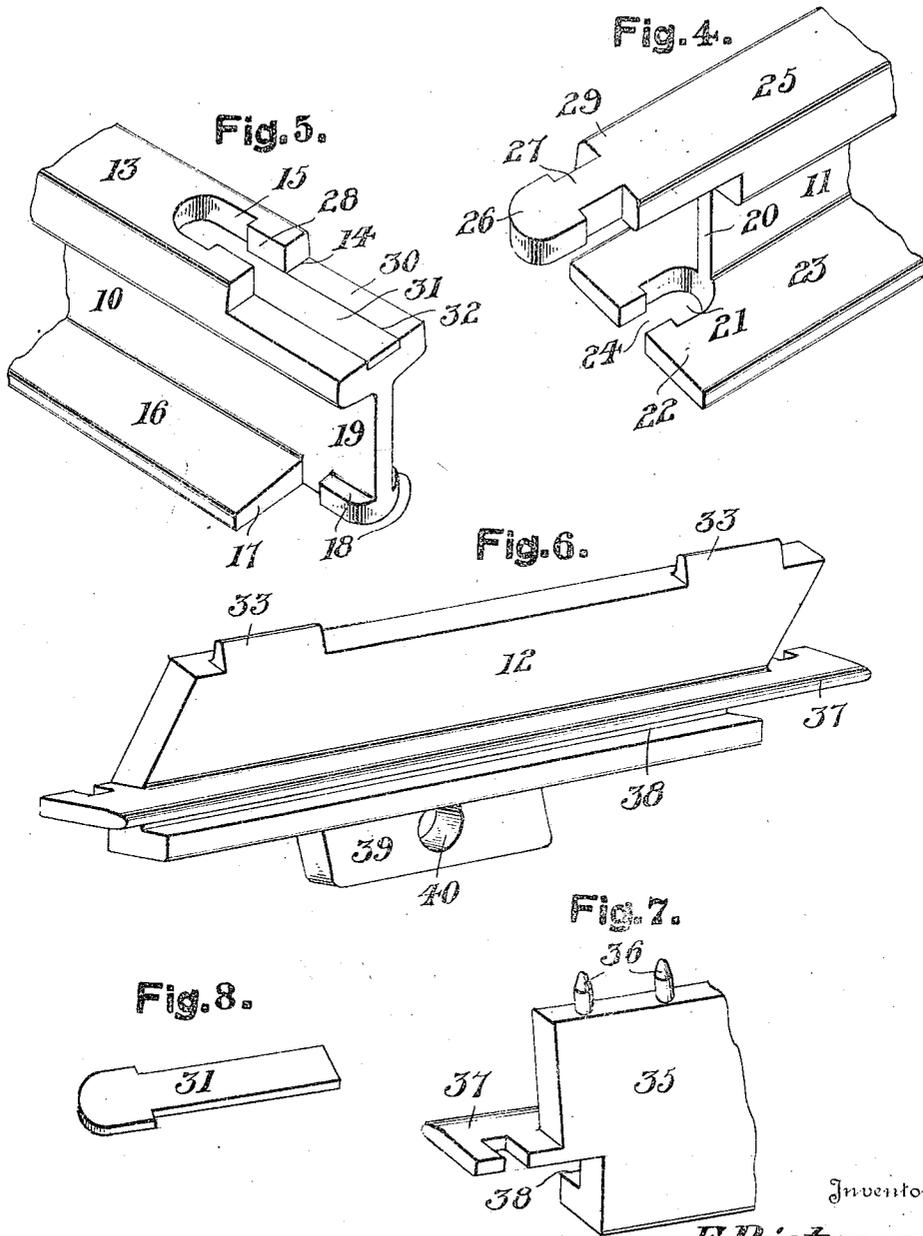
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRANK PIETRUSZA, OF ARNOLD CITY, PENNSYLVANIA.

RAIL-JOINT.

1,154,882.

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Application filed March 19, 1915. Serial No. 15,449.

To all whom it may concern:

Be it known that I, FRANK PIETRUSZA, a subject of the Emperor of Austria-Hungary, residing at Arnold City, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to new and useful improvements in rail joints.

The primary object of the invention is to provide a serviceable joint between the abutting ends of railroad rails whereby a substantially uninterrupted tread surface is provided and the rails are rigidly locked together in their operative positions.

A further object is to provide inter-engaging rail ends capable of holding the rails together without the aid of a securing means and also providing oppositely arranged fish plates inter-engaging with said rail ends for permanently locking the rails together when positioned upon the road bed.

A still further object is the provision of complementally formed interlocking adjacent ends for railroad rails capable of temporarily retaining the rails in their operative alining positions, and in also providing side engaging fish plates for permanently locking the rails together for use upon a railroad.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views: Figure 1 is a side elevation showing the present invention in connection with the adjacent ends of two rails. Fig. 2 is a top plan view thereof. Fig. 3 is a transverse vertical sectional view taken upon line III—III of Fig. 2. Fig. 4 is a perspective view of the engaging end of one of the rails. Fig. 5 is a similar view of the complementally formed engaging end of the adjacent rail. Fig. 6 is a perspective view of one of the locking fish plates. Fig.

7 is a perspective view of an end portion of a modified form of locking fish plate, and, Fig. 8 is a perspective view of the buffer or packing employed with the device.

Referring more in detail to the drawings, two rails 10 and 11 are illustrated having their adjacent ends complementally formed for inter-engagement as best illustrated in Figs. 4 and 5 of the drawings, while fish plates 12 are arranged in secured interlocking positions upon opposite sides of the joint. The rail 10 has its head 13 thereof provided with a cut-away end portion 14 and with a communicating socket 15 formed in the said head while the base flange 16 of the rail 10 is cut-away as at 17 providing side lugs 18 at the lower front edge of the rail web 19. The rail 11 has its extreme end complementally formed by cutting away the end portion of the rail web 20 and then forming a recess 21 in the center of the projecting ends 22 of the base flanges 23 of said rail, the said recess 21 being adapted to receive the lugs 18 when the web 19 is positioned through the entrance slot 24 of the said recess and the base flanges of the two rails are brought into alinement with each other upon the same horizontal plane. The tread 25 of the rail 11 is provided at its extended end with a form of arch-shaped head 26 adapted to seat within the tread socket 15 of the rail 10, the said head having a neck portion 27 adapted for reception within the groove 28 leading from the said tread socket. With this arrangement of complementally formed ends upon the rails 10 and 11, it will be seen that the rail 11 may be engaged with the rail 10 by slidably positioning the end of the web 19 through the slot 14 with the tread of the rail 11 upon a plane above the plane of the head 13 and when the adjacent ends of the two webs 19 and 20 of the rails come into contact with each other, the rail ends may be moved into alinement with each other by engaging the base flanges 16 and 22 thereof, together in alinement with each other and with the lugs 18 seated within the recess 21 as heretofore described, and at which time the tread head 26 will seat within the tread recess 15 and the neck 27 will rest within the slot 28, while the portion 29 of the rail tread 25 will

seat flatly upon the tread portion 30 of the end of the rail 10. A resilient buffer or packing 31 is positioned in the bottom of the socket 15 and groove 28 and is countersunk in a longitudinal groove 32 of the said tread portion 30 of the rail 10 and this allows for a resilient seating of the rails together and takes up the wear of the rails during the operations of the rolling stock thereover.

The rail ends being adapted for interengagement as above described, it is designed to provide locking fish plates 12 of the form illustrated in Fig. 6 to be positioned upon opposite sides of the rail joint for locking the rails in operative alinement. These fish plates are provided upon one edge with projecting lugs 33 which are adapted to be received within sockets 34 upon the under sides of the rail treads 13 and 25, as best illustrated in Fig. 2, although the form of plates 35 may be employed as illustrated in Fig. 7, and which differ only from the fish plates 12 by having projecting pairs of pins 36 instead of the afore-mentioned lugs 33, which pins are engageable in similar sockets 37 in the under sides of the rail treads.

The fish plates 12 and 35 are each provided with inwardly projecting flanges 37' seating upon the upper edges of the base flanges of the rails when the fish plates are attached to the opposite sides thereof while the base flanges of the rails are received within longitudinal slots 38 of the said fish plates. Each of the said plates has a centrally-arranged downwardly projecting lug 39 provided with a central perforation 40 therethrough and a clamping means is arranged between the said lugs 39 and is herein illustrated as consisting of the bolt 41 provided with a tapered screw 42 arranged within the threaded bore 43 of the said bolt while the heads 44 and 45 of the said bolt and screw respectively, engage the outer faces of the lugs 39, so that by relatively tightening the said bolt and screw, the fish plates are drawn together in their locking engagement with the rail ends.

It will thus be seen that when the rail ends are temporarily interlocked together, that fish plates in either the forms shown in Figs. 6 or 7 are readily positioned upon opposite sides of the joint so formed while one plate of each kind may be so arranged if desired, as best shown in Fig. 2, and such positioning will place the lug perforations 40 in alinement with each other so that the locking bolt and screw 41 and 42 respectively, may be inter-engaged and tightened for locking the fish plates upon the rail ends and inclosing the rail joint therebetween.

While the forms of the invention herein shown and described are what are believed to be preferable embodiments thereof, it is nevertheless to be understood that various forms, modifications and arrangements of

the parts as shown may be had without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A rail joint comprising two inter-engaging rail ends complementally formed and having side sockets in the tread portions thereof, fish plates oppositely positionable upon the said rail ends and having projections extending into the said sockets and further having longitudinal side slots within which the base flanges of the rail ends are seated, central depending lugs carried by the said plates provided with perforations therethrough, and inter-engaging securing clamps carried by the said lugs and extending through said perforations.

2. A device of the class described, comprising rail ends having complementally formed projections and receiving portions upon each of the same and being further provided with inwardly projecting sockets upon the lower sides of the rail treads, fish plates provided with spaced projecting lugs positionable within said sockets and having inwardly projecting longitudinal flanges seated upon the base flanges of said rails, depending lugs upon said fish plates provided with central perforations, a bolt positioned through one of said lug perforations and having a threaded bore, and a lock screw positioned through the other one of said lug perforations and engaging within the said bore.

3. A rail joint comprising a rail end provided with a cut-away tread portion and having the adjacent portion of the tread provided with a slot and an enlarged socket, a resilient packing countersunk in said cut-away portion and said slot and socket, another rail end having the web and the adjacent underneath portion of the tread cut-away forming a tread extension terminating in a rounded head and a connecting reduced neck portion, the said head, neck and tread portion of said last-named rail end being positionable within the socket and slot and upon the cut-away tread portion and the aforesaid packing of the first-named rail end when the ends of the webs of the said rails are in alining abutment with each other.

4. A rail joint comprising a rail end provided with a cut-away tread portion and having the adjacent portion of the tread provided with a slot and an enlarged socket, a resilient packing countersunk in said cut-away portion and said slot and socket, the end portion of the base flange of said rail being cut-away, opposite projecting curved lugs formed at the bottom and at the end of the web thereof forming a head portion in substantial alinement with the base flange of the carrying rail, another rail end having the web and the adjacent underneath

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portion of the tread cut-away forming a tread extension terminating in a rounded head and a connecting reduced neck portion, the base flanges of said second-named rail 5 end having a central socket adjacent the web of the said rail and having a communicating forwardly positioned slot in alignment with the said web, the said head, neck and tread portion of said last-named rail 10 end being positionable within the socket and slot and upon the cut-away tread portion and the aforesaid packing of the first-named rail end when the ends of the webs of the said rails are in alining abutment with each other, and at which time the base flanges are 15 in engagement with each other, with the web head seated within the said base flange socket.

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

FRANK PIETRUSZA.

Witnesses:

JAKOB MOWKOWICS,
WM. ASHTON.