

J. RIZZUTO,
RAIL JOINT.

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1,342,228.

Patented June 1, 1920.

Fig. 1.

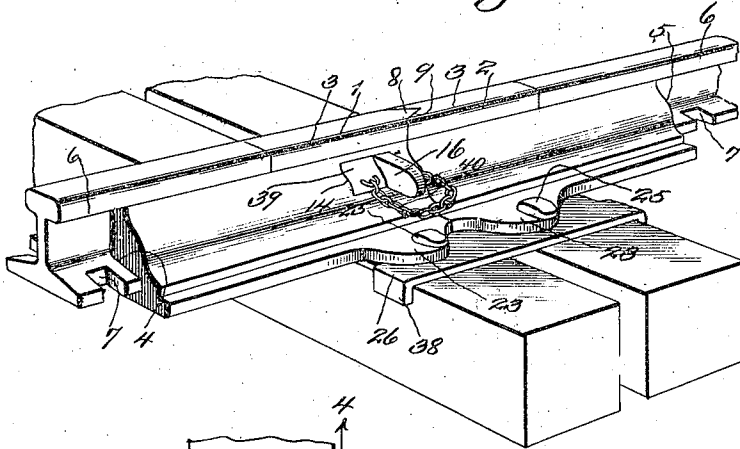


Fig. 2.

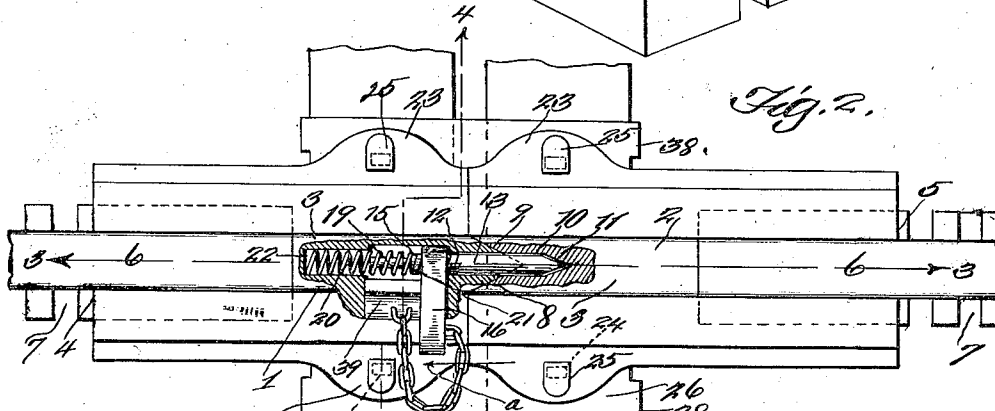


Fig. 3.

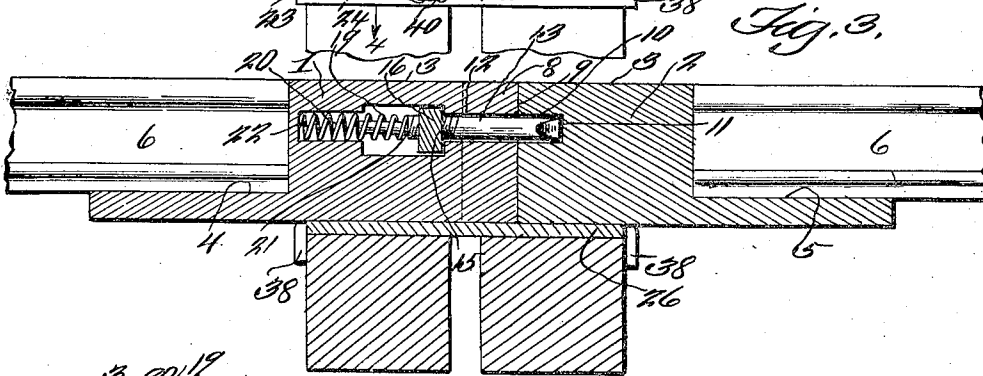
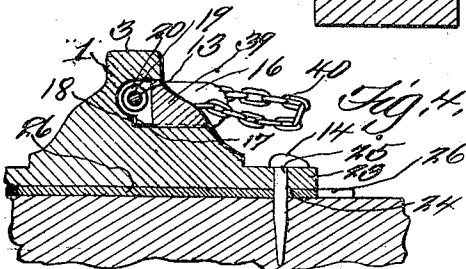


Fig. 4.



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To all whom it may concern:

Be it known that I, JAMES RIZZUTO, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improved rail joints and particularly to a boltless type, and an object of the invention is to provide a very simple, efficient and practical rail joint wherein means is provided for guiding adjacent ends of the rail toward each other, in combination with means for connecting the adjacent ends of the rails together without the use of bolts.

20 Another object is to provide a rail joint of this character wherein the end of one rail has a cavity, preferably V-shaped, though not necessarily, in the web, to receive a correspondingly shaped rib or projection on the end of the adjacent rail to guide the two rails together, in combination with a tensioned pin to enter the rail web having the cavity, to further guide the adjacent ends of the rails together.

30 A further object is to provide means on the pin to manipulate the same to withdraw it from the rail web, said means operating in a guide in the rail carrying the pin, to hold the pin against partial rotary movement whereby the V-shaped end of the pin will at all times remain in proper position to enter the rail web, there being a closure connected to said means, to close the guide, and also to engage said means to hold the pin projected into the rail web of the adjacent rail.

40 While the design and construction at present illustrated and set forth is deemed preferable, it is obvious that as a result of a reduction of the invention to a more practical form for commercial purposes, the invention may be susceptible of changes, and the right to these changes is claimed, provided they are comprehended within the scope of what is claimed.

50 The invention comprises further features and combination of parts, as will be herein-

after set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a perspective view of the improved rail joint constructed in accordance with the invention.

Fig. 2 is a plan view of the same, showing parts of the rail sections in section.

Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 2.

Fig. 4 is a transverse sectional view on line 4—4 of Fig. 2.

Referring more especially to these drawings, 1 and 2 designate rail sections, the webs of which below the rail section treads 3 are enlarged or thickened. These rail sections 1 and 2 at their remote ends are formed into rail receiving chairs 4 and 5, to receive the rails 6, the bases of which have notches 7 to receive suitable securing means (not shown) for securing the rails 6 in place.

The end of the thickened web, the base and the tread 3 of the rail section 1 is provided with a V-shaped projection or tongue 8, which enters a cavity 9 of the adjacent end of the rail section 2. This projection or tongue 8 and the cavity 9 are preferably V-shaped, but may be otherwise shaped if so desired. By means of this V-shaped tongue and the cavity 9, the two rail sections 1 and 2 may be guided toward each other, when said rail sections are designed to be united. The bottom of the cavity 9 of the rail section 2 has a cylindrical socket 10, the inner end of which is V-shaped as shown at 11. The web of the rail section 1 has a bore 12, in which a holding pin 13 is guided. One side of the enlargement of the web of the rail section 1 has an enlarged recess or opening 14. The pin 13 has connected to it by means of threads as indicated at 15, a projecting arm 16. This arm extends laterally, and is guided in the recess or opening 14. It is obvious that by grasping the arm 16 and moving the same in the direction of the arrow *a* the V-shaped end of the holding pin 13 may be withdrawn from the socket 10. Adjacent where the arm 16 is connected to the holding pin, it is provided with a shoulder 17 to cooperate with the shoulder 18 of the adjacent lower parts

of the bore 12 and the lower part of the opening or recess 14, so as to guide the arm in its line of movement. The holding pin at one end has a reduced part 19, engaged by a coil spring 20, which is mounted in the rear end portion of the bore 12. This coil spring is interposed between the shoulder 21 of the holding pin and the rear end 22 of the bore 12, and constitutes means to hold the holding pin normally in engagement with the socket 10. When it is desired to disconnect a rail it can be accomplished by moving the holding pin in the direction of the arrow *a* and owing to the tongue and the cavity 9 being correspondingly shaped, for the entire height of the web, base and the treads of the rail sections, one rail section after it has been detached by removing a spike may be bodily raised. In other words, the rail section can be raised a little more than the height of the rail section so that one of the rail sections may be detached from one of the rails 6, by giving the rail section a movement in a direction from its respective rail 6. After one of the rail sections has been removed in this manner, the rails 6 can be very readily detached from the tie, by removing the spikes. The bases of the rail sections 1 and 2 have lateral ears 23 provided with openings 24, to receive the usual spikes 25, which pass into the tie and act to secure the rail sections 1 and 2 to the ties, it being necessary, in this case, to use very closely arranged ties, as shown in Fig. 1. Engaging under the rail sections 1 and 2 is a supporting rail plate 26, which also has openings through which the spikes 25 engage, so as to hold the plate 26 securely in position. In order to further secure the rail plate in place its ends are provided with downwardly projecting lugs 38 to engage and overlie the remote sides of the ties, as shown clearly in Figs. 1-3 inclusive. A suitable closure 39 engages the recess or opening 14 for closing the same. This closure 39 carries an eye, and has connected to it a chain or other connection 40, by means of which the closure may be easily and very quickly removed or inserted. This closure is of the shape to neatly enter the recess or opening 14, and has its outer face corresponding in shape to the outer face of the web of one of the rail sections, so as to present a very neat appearance on the exterior. This present invention is especially adapted for use in connection with rail fastening means disclosed in said co-pending application, and owing to the structure in this co-pending application being anchored to the tie, its anchoring means assists materially in preventing excessive movement to the joined parts.

The invention having been set forth, what is claimed as new and useful is:—

1. The combination with the adjacent ends

of a pair of rail sections having their remote ends provided with rail chairs to receive the ends of the rails to be joined, of means for guiding the adjacent ends of the rail sections together, and means carried by one rail section and adapted to penetrate into the web of the adjacent rail section for connecting the two sections together, thereby preventing upward movement of the rail sections with respect to each other.

2. In a device as set forth, a pair of adjacent rail sections, the end of one rail section having a vertically extending cavity, the adjacent end of the other rail section having a vertically arranged tongue to enter said cavity, to guide the two rail sections together and to prevent their lateral movements and to permit the rail sections to move vertically with relation to each other, the bottom of the cavity having a socket, a tensioned device guided in the rail section having the tongue and adapted to engage said socket to prevent movement of one rail section relative to the other.

3. In a device as set forth, wherein adjacent ties are employed, of a rail plate engaging said ties for resting upon and straddling said ties, a pair of adjacent rail sections on said plate, means passing through the bases of the rail sections and the plate and the tie for securing said parts together, said rail sections having their remote ends provided with chairs to receive and hold adjacent rails in position, means carried by the adjacent ends of the rail sections for guiding them together and to allow one to move vertically relatively to the other, and means carried by one rail section to enter the other rail section to prevent vertical relative movement of the rail sections.

4. In a device as set forth, a pair of rail sections having their remote ends provided with chairs to receive rails to be connected, of means for connecting the adjacent rail sections, comprising a cavity formed vertically on one end of one of said rail sections, a tongue on the end of the other rail section to enter said cavity, one rail section having a socket in the bottom of the cavity, a spring tensioned pin guided in the web of the other rail section and adapted to enter said socket, the rail section carrying the pin having a recess extending laterally, an arm on the pin engaging said recess and projecting outwardly beyond the recess to be grasped for removing the pin from the socket, a closure for the recess having a connection with said arm.

5. The combination with the adjacent ends of a pair of rails, of a pair of rail sections having their adjacent ends solid and closed and their remote ends provided with means corresponding to and receiving the

adjacent ends of the rails, the solid end of one rail section having a cavity extending the full height of the end, the solid end of the other rail section having a tongue extending the full height of the end and engaging said cavity, and a spring tensioned element mounted in the solid end of one rail section and extending through the tongue and into the bottom of the cavity, thereby preventing relative movement of the two rail sections vertically, the tongue and cavity acting to prevent relative movement of the rail sections laterally. 10

5 In testimony whereof I hereunto affix my signature.

JAMES RIZZUTO.