

2 SHEETS—SHEET 1.

23 G.W. Warner,
BY *[Signature]*
ATTORNEYS

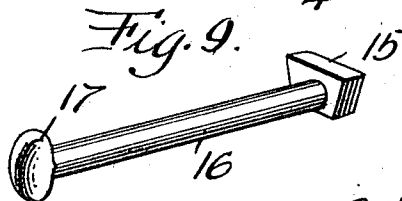
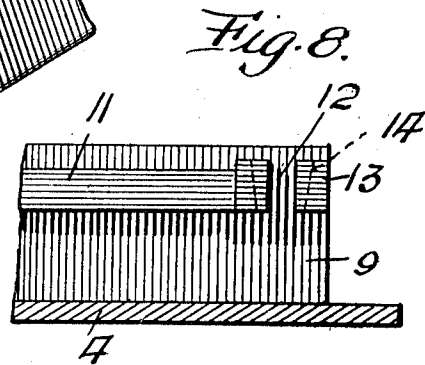
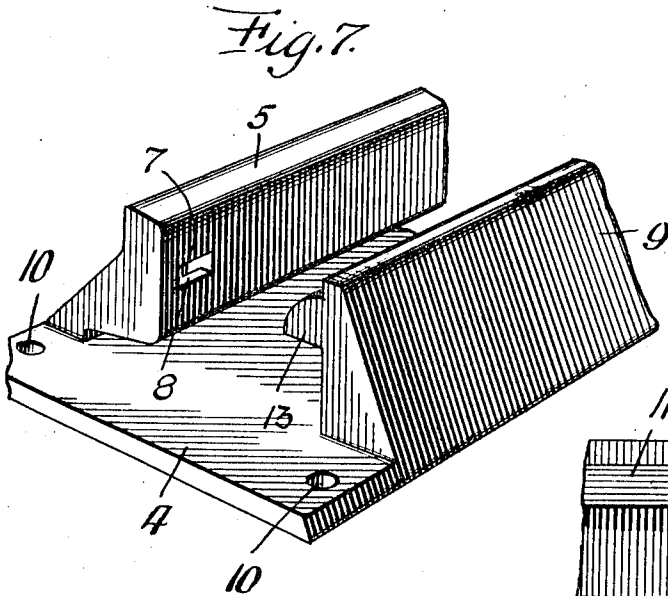
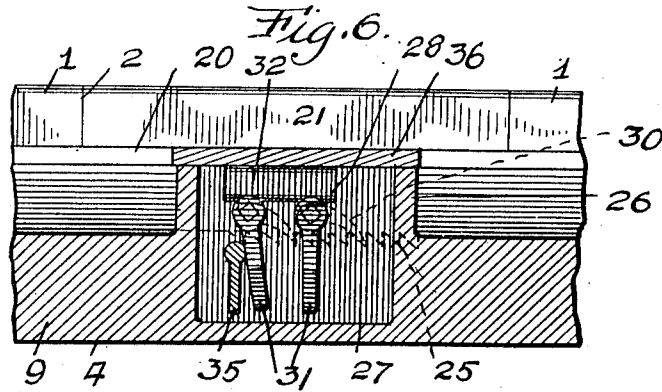
G. W. WARNER.
RAIL JOINT.

APPLICATION FILED MAY 14, 1912.

1,035,282.

Patented Aug. 13, 1912.

2 SHEETS-SHEET 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

1,035,282.

Specification of Letters Patent. Patented Aug. 13, 1912.

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REISSUED

To all whom it may concern:

Be it known that I, GILBERT W. WARNER, a citizen of the United States of America, residing at Kenmore, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to rail joints, and the primary object of my invention is the provision of positive and reliable means, as hereinafter set forth, for connecting the confronting or abutting ends of rails, whereby
15 the rails cannot become accidentally displaced.

Another object of this invention is to provide a novel rail chair which will afford a continuous tread for rolling stock, thereby obviating the jarring and bumping experienced when passing over a joint.

20 A further object of this invention is to provide a rail joint that has novel fastening and locking means protected from the forces of nature and against tampering by unscrupulous persons.

A still further object of this invention is to accomplish the above results by a mechanical construction that is durable, easily installed and highly efficient for the purposes for which it is intended.

30 With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein like numerals denote corresponding parts throughout the several
40 views, in which:—

Figure 1 is a side elevation of the rail joint, Fig. 2 is a plan of the same, Fig. 3 is a horizontal sectional view of the rail joint, Fig. 4 is a cross sectional view taken on the line IV—IV of Fig. 3, Fig. 5 is a similar
45 view taken on the line V—V of Fig. 3, Fig. 6 is a longitudinal sectional view taken on the line VI—VI of Fig. 5, Fig. 7 is a perspective view of a portion of the rail chair, Fig. 8 is a longitudinal sectional view of a

portion of the same, and Fig. 9 is a perspective view of a detached bolt forming part of the rail joint.

The reference characters A and B generally denote the abutting or confronting
55 ends of two rails, and these rails have the heads 1 thereof cut away, as at 2 upon one side. The base flanges 3 of the rails rest upon an oblong chair 4 that has the inner side thereof provided with an integral splice
60 bar 5 that braces the inner side of the rails A and B. The splice bar 5 is braced by integral webs 6, as best shown in Figs. 2, 3 and 5. The inner-side of the splice bar 5 has pockets 7 and vertical slots 8 that are
65 in communication with said pockets.

The outer edge of the rail chair 4 has a longitudinal brace 9 that confronts the integral splice bar 5, said brace and said splice bar being of a less length than the chair 4, 70 whereby the ends of the chair can be provided with openings 10 to receive spikes or other fastening means (not shown) employed for securing the chair to ties or other supports. The inner side of the brace 9, 75 adjacent to the upper end thereof, has a longitudinal rib 11 corresponding in length to said brace. The rib 11, at points opposite the slots 8, is provided with slots 12 and lugs 13 at the sides of said slots. The confronting sides of the lugs 13 are recessed to provide seats 14 for the heads 15 of bolts 16. The seats 14 are dove-tailed to receive the heads 15, and the bolts 16 at the opposite ends, have oblong heads 17. After the
85 rail B has been placed in position upon the chair 4, the bolts 16 are placed in openings 18 provided therefor in the webs of the rails. The oblong heads 17 of the bolts are then placed through the slots 8 of the integral splice bar 5, and in the pockets 7 of said splice bar. The bolts are then given a quarter of a turn, whereby the heads 17 of the bolts will be locked within the pockets 7. The heads 15 of the bolts are then placed
95 in the seats 14 of the brace 9. A detachable splice bar 19 is next placed in position, said bar having the upper edge thereof provided with a horizontal closure plate 20. The splice bar 19 fits against the inner sides of 100

the rails A and B, under the heads 1 thereof, and the upper edge of said splice bar has a projection 21 that fits in the cut away portions 2 of the heads 1 of the rails A and B, as best shown in Figs. 1, 2 and 5, said projections providing a continuous tread for rolling stock.

The detachable splice bar 19 is provided with vertical slots 22, said slots providing clearance for the innermost bolts 16, whereby the detachable splice bar 19 can be placed in position. The slots 22 are best observed by reference to Figs. 3 and 4. The outer side of the detachable splice bar 19 has a longitudinal tapering groove 23, and arranged between the detachable splice bar 19 and the brace 9, is a tapering wedge 24 that extends into the grooves 23, said wedge also extending below the bolts 16. The wedge 24, intermediate the ends thereof, has the upper outer edge provided with ratchet teeth 25, (see Figs. 3, 5 and 6).

The brace 9, intermediate the ends thereof, has an enlargement 26 provided with a recess 27. The inner wall of the recess 27 has slots 28. Arranged in the slots 28 are pins 29 that have the inner ends thereof provided with pawls 30 engaging the ratchet teeth 25 of the wedge 24. The outer ends of the pins 29 have cranks 31. The pins 29 are movably held within the slots 28 by the depending keeper 32 carried by the closure 20. The outer wall of the enlargement 26, at one end thereof, has a key opening 33 for a key 34. The inner end of the key 34 is supported by the inner wall of the enlargement 26 and by rotating said key, the bit 35 thereof engages one of the cranks 31, shifts said crank into engagement with the other crank and moves both of said cranks, whereby the pins 29 will be rotated to elevate the pawls 30 out of engagement with the ratchet teeth 25 and permit of the wedge 24 being removed.

The closure plate 20 has an extension 36 that closes the recess 27 of the enlargement 26. The closure plate 20 also has end walls 37 and these end walls prevent dirt and foreign matter from entering the space between the detachable splice bar 19 and the brace 9.

From the foregoing it will be observed that I have devised a rail fastener that has a concealed and protected fastening means that cannot become accidentally displaced. With the wedge 24 locked in the rail chair, the splice bar 19 cannot be removed, and before the rail joint can be disassembled, it is necessary that a key be employed to unlock the locking mechanism.

It is thought that the utility and manner of assembling the parts of the rail joint will be apparent without further description, and while in the drawings there is illustrated a preferred embodiment of the invention, it is

to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claims.

What I claim is:—

1. In a rail joint, the combination with rails having the heads thereof at the confronting ends of said rails cut away, of a rail chair supporting the confronting ends of said rails, a splice bar formed integral with said chair and bracing the inner edges of said rails, said splice bar having pockets formed therein, a brace carried by the outer edge of said chair, a longitudinal rib carried by the inner side of said brace and provided with seats, bolts having the ends thereof arranged in the seats of said brace and in the pockets of said splice bar and extending through the webs of said rails, a slotted detachable splice bar engaging the outer sides of said rails, a projection mounted in said cut away ends of the rails, a wedge interposed between said detachable splice bar and said brace, and a locking mechanism arranged within said brace and engaging said wedge for retaining said wedge between said splice bar and said brace.

2. In a rail joint, the combination with rails having the heads thereof cut away at the confronting ends of said rails, of a chair adapted to support said rails, a splice bar formed integral therewith and bracing the inner sides of said rails, said splice bar having pockets formed therein, a longitudinal brace carried by the outer edge of said chair and having the inner side thereof provided with seats, bolts extending through said rails and having the ends thereof arranged in the pockets of said splice bar and in the seats of said brace, a slotted detachable splice bar engaging the outer sides of said rails, a projection carried by said detachable splice bar and extending into the cut away portions of the heads of said rails, a tapering wedge arranged between said detachable splice bar and said brace, a locking mechanism carried by said brace for locking said wedge in position, and a closure plate carried by said detachable splice bar and extending over said brace.

3. In a rail joint, the combination with rails having the heads thereof at the confronting ends cut away, of a chair supporting said rails, a splice bar formed integral with said chair and bracing the inner sides of said rails, a brace carried by the outer edge of said chair, bolts extending through said rails and having the ends thereof held by said splice bar and said brace, a detachable splice bar arranged between said brace and the outer sides of said rails, a projection carried by said splice bar and extending into the cut away portions of the heads of said rails, a key actuated locking mechanism

associated with said brace and adapted to
lock said wedge between said brace and said
detachable splice bar, and a closure plate
carried by said detachable splice bar and
5 extending over said brace and closing the
space between said brace and said detach-
able splice bar.

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

GILBERT W. WARNER.

Witnesses:

MAX H. SROLOVITZ,
N. L. BOGAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
