

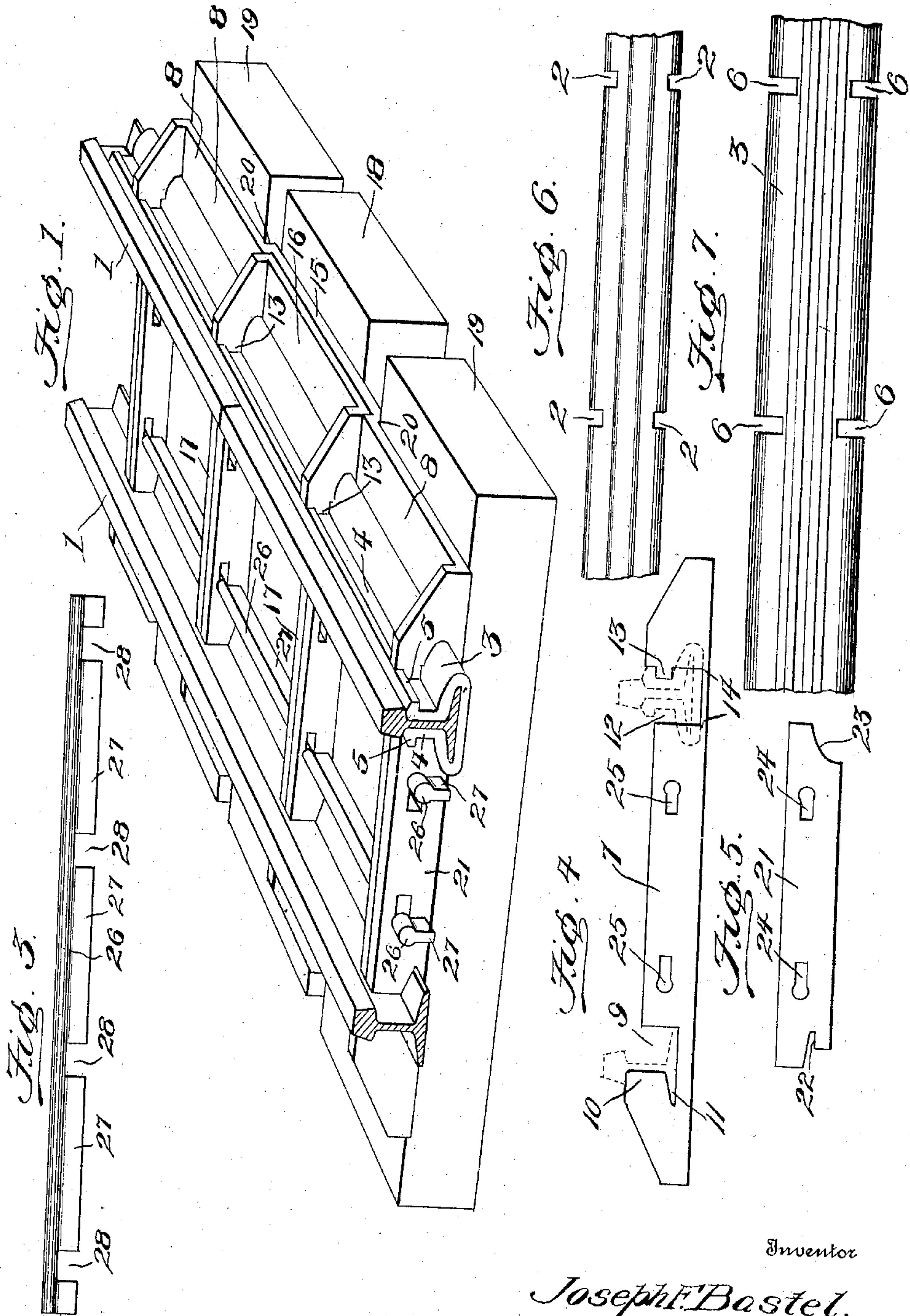
No. 865,227.

J. F. BASTEL.  
RAIL JOINT.

APPLICATION FILED MAY 3, 1907.

PATENTED SEPT. 3, 1907.

2 SHEETS—SHEET 1.



Witnesses

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[Signature]

Inventor

Joseph F. Bastel,

By

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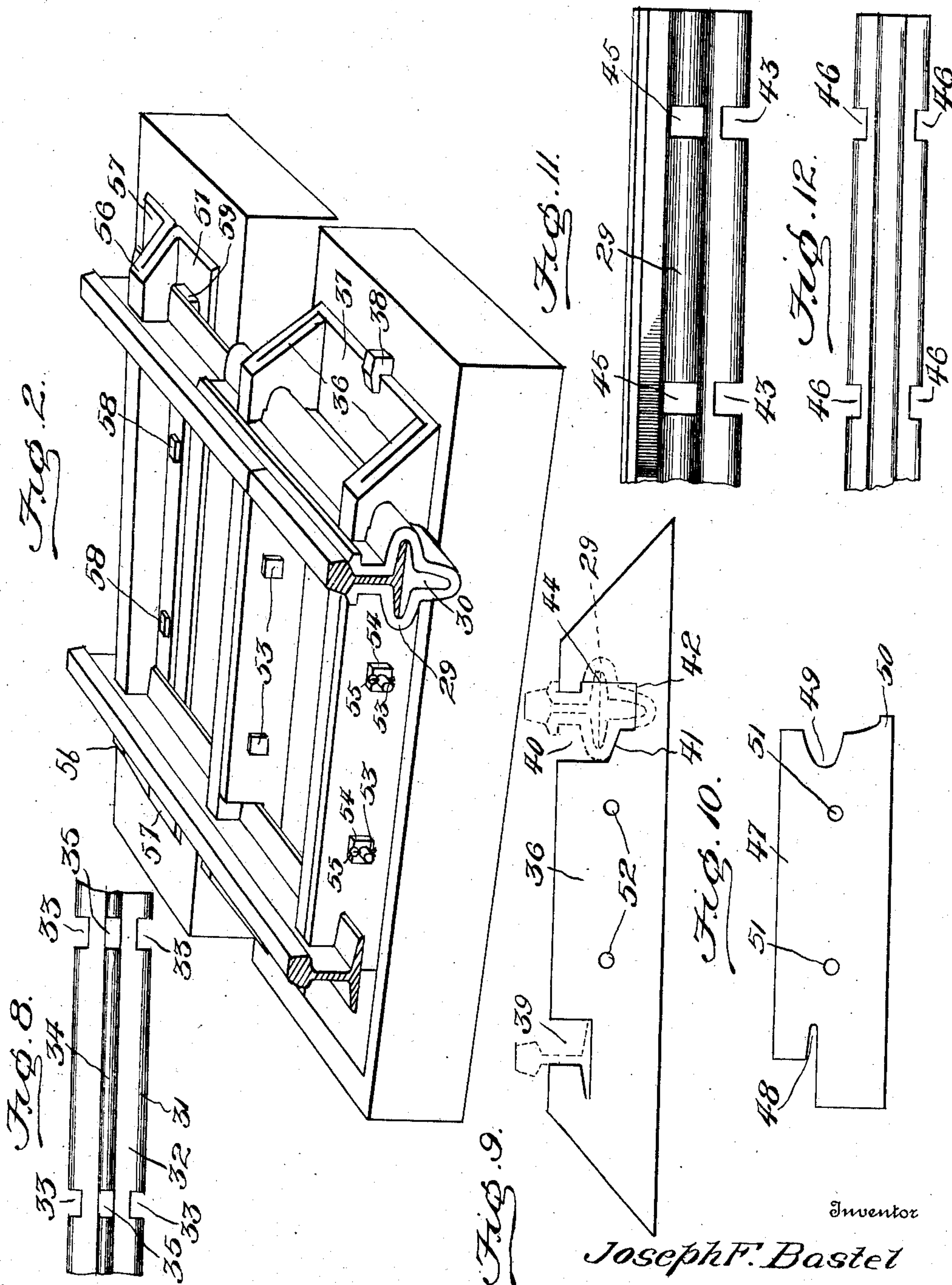
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Witnesses  
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*Fig. 9.*  
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# UNITED STATES PATENT OFFICE.

JOSEPH F. BASTEL, OF ST. LOUIS, MISSOURI.

## RAIL-JOINT.

No. 865,227.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed May 3, 1907. Serial No. 371,686.

*To all whom it may concern:*

Be it known that I, JOSEPH F. BASTEL, a citizen of the United States, residing at St. Louis, in the county of St. Louis City and State of Missouri, have invented  
5 new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and one of the principal objects of the same is to provide reliable and efficient means for holding the rails in place to prevent  
10 spreading, sinking or creeping of the rails.

Another object of the invention is to provide a rail joint which does not require the use of threaded bolts for holding the meeting ends of the rails together, and which will form a strong, durable, reliable and efficient  
15 brace for the rails to prevent movement in any direction.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

20 Figure 1 is a perspective view of a pair of railway rails connected together and braced in accordance with my invention. Fig. 2 is a similar view of a slightly modified form of my invention. Fig. 3 is a side elevation of one of the key bars. Fig. 4 is a front elevation  
25 of one of the cross braces, showing the rails and rail chair fitted thereto. Fig. 5 is a similar view of the gage bar. Fig. 6 is a plan view of a portion of one of the rails. Fig. 7 is a similar view of the chair. Fig. 8 is a plan view of a portion of a supporting bar placed within the chair  
30 for supporting the base flange of the rail. Fig. 9 is a side elevation of a brace bar of modified form, showing the rails and rail chair in dotted lines. Fig. 10 is a similar view of a modified form of gage bar. Fig. 11 is a detail side elevation of a modified form of rail chair.  
35 Fig. 12 is a detail plan view of one of the rail ends.

Referring to Figs. 1, 3, 4, 5, 6 and 7 of the drawings, the numerals 1 designate the rails which are provided with notches 2 formed in the base flanges thereof, said rails being otherwise of the usual or any suitable construction. A rail chair 3 provided with side flanges 4  
40 and outwardly projecting lugs 5 incloses the meeting ends of the rails at the joints, said chair being provided with notches 6 which coincide with the notches 2 in the base flanges of the rails.

45 It is to be noted that in Fig. 1, a rail joint is shown upon one side of the double track, and that the chair 3 incloses the meeting ends of these rails upon this side of the track, while the rail upon the opposite side of the track is not provided with a joint in transverse  
50 alinement therewith, hence it will be understood that the parallel rails are joined at different points in their length. Transverse braces 7 are formed upon a base plate 8 at the opposite ends thereof, said brace bars having upon one side a recess 9 for the base flange of the  
55 rail and an inwardly extending lug 10 which bears upon the outer side of the web of the rail between the head

and the base flange thereof, a recess 11 being formed for the base flange of the rail. Near the opposite side of the bar 7 is a recess 12, and a lug 13 extends inward from one of the walls of said recess, said lug being adapted to fit under the lug 5 projecting outward from the rail chair, while the edge of the plate or bar 7 projects into the notches 6 in the rail chair, and the notches 2 in the base flanges of the rails, as shown at 14, Fig. 4. The base plate 8 is provided with a central depression  
60 15 and seated in this depression is a plate 16 having brace bars 17 formed thereon, said brace bars being substantially identical with the bars 7. The depressed portion 15 of the base plate 8 rests upon a cross tie 18 which is of slightly less height than the two ties 19, and  
65 70 the two opposite shoulders 20 of the depressed portion 15 bear against the edges of the ties 19, as shown more particularly in Fig. 1.

A gage bar 21 having at one side a recess 22 to fit the base flange of the rail upon one side, is provided upon  
75 its opposite end with a curved portion 23 which conforms to the outer shape or contour of the rail chair 3. Oppositely disposed keyhole slots 24 are formed in the gage bar 21, and similar keyhole slots 25 are formed in the brace bars 7, said keyhole slots being disposed in  
80 alinement after the braces and gage bars have been properly connected to the rails. A key bar 26 which, in cross section, fits the keyhole slots 24 and 25, is provided with a depending flange 27 having recesses 28 therein, said recesses being of such width as will span  
85 the thickness of the bars 7 and 21. These key bars are passed through the keyhole slots and the flange 27 being then turned downward, as shown in Fig. 1, to lock all the parts together.

As shown in Figs. 2, 8, 9, 10, 11, and 12, 29 is a rail  
90 chair having a recess 30 therein, and placed in the recess 30 is a longitudinal supporting bar 31 comprising side flanges 32 having notches 33 therein, and a downwardly extending rib 34 provided with notches 35. The transverse braces 36 are formed on base plates 37,  
95 the edges of which are bent upward and downward against the base to form the bars 36, and said base plates are secured to the ties by means of spikes 38. A recess 39 is formed in one side of the brace 36 in the manner similar to the recess 9 in the bar 7, while upon the opposite end of the brace 36, a recess 40 is provided, said  
100 recess having an inclined wall 41 to support the rail chair 29, a bottom wall 42 which fits in the notches 43 in the rail chair, and the notches 35 in the longitudinal brace bars 31. The side wall 44 of the brace bar 36  
105 engages the notches 45 in the sides of the rail chair 29, said wall extending through the notches 46 in the base flange of the rail. The gage bars 47, shown in Fig. 10, each consists of a plate having a recess 48 at one end to fit over the base flange of the rail and at the opposite  
110 end a recess 49 to fit the side of the rail chair 29, and a lug 50 which fits underneath the rail chair. A series



of holes 51 formed in the gage bar 49, are disposed coincidentally to the openings 52 in the brace bar 36, and pins 53 pass through said openings and are provided with nuts 54 which are held in connection with the pins 53 by cotters 55 or other similar means.

Referring to Fig. 2, a brace bar 56 formed of a double sheet of metal with base flanges 57 bolted at 58 to a cross bar 59 extending across under the base flanges of the rail, is provided with recesses similar to those designated 39 and 40, in Fig. 9.

From the foregoing it will be obvious that a rail joint constructed in accordance with my invention will hold the meeting ends of rails firmly in position, that the rails may be connected without the use of threaded bolts, and that repairs and renewals can be easily effected as all the parts may be removed and quickly replaced.

Having thus described the invention, what I claim is:

1. A rail joint comprising a rail chair for inclosing the meeting ends of the rails, said rail chair having notches in the flange portions thereof, transverse braces provided with recesses to accommodate the rails and the rail chair, said transverse braces engaging the notches in the rail chair, and notches in the base flanges of the rails.
2. A rail joint comprising a rail chair to inclose the meeting ends of the rails, said rails and chair being provided with alined notches, transverse brace bars provided

with recesses, the walls of which engage said notches, gage bars fitted to the braces inside the rails, said brace bars and gage bars each having apertures therein, and means extending through the apertures for holding the brace bars and gage bars in position.

3. A rail joint comprising a rail chair to engage the meeting ends of the rails, brace bars formed upon a base plate and provided with apertures or recesses for the rails and rail chair, gage bars extending inside from rail to rail and provided with recesses to engage the rail flange and rail chair, said brace bar and gage bar being provided with registering keyhole slots, and a key bar for locking said brace bars and gage bars together.

4. A rail joint comprising a rail chair, a base plate, brace bars formed thereon, said base plate having a central depression, a base plate fitted in said depression and provided with brace bars for engaging the rails, gage bars fitted to the brace bars, and provided with alined apertures, and key bars fitted in the apertures, substantially as described.

5. In a rail joint, a rail chair, a notched longitudinal supporting bar in the chair, transverse brace bars, gage bars fitted to the brace bars, and means for holding the brace bars and gage bars together, substantially as described.

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

JOSEPH F. BASTEL.

Witnesses:

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