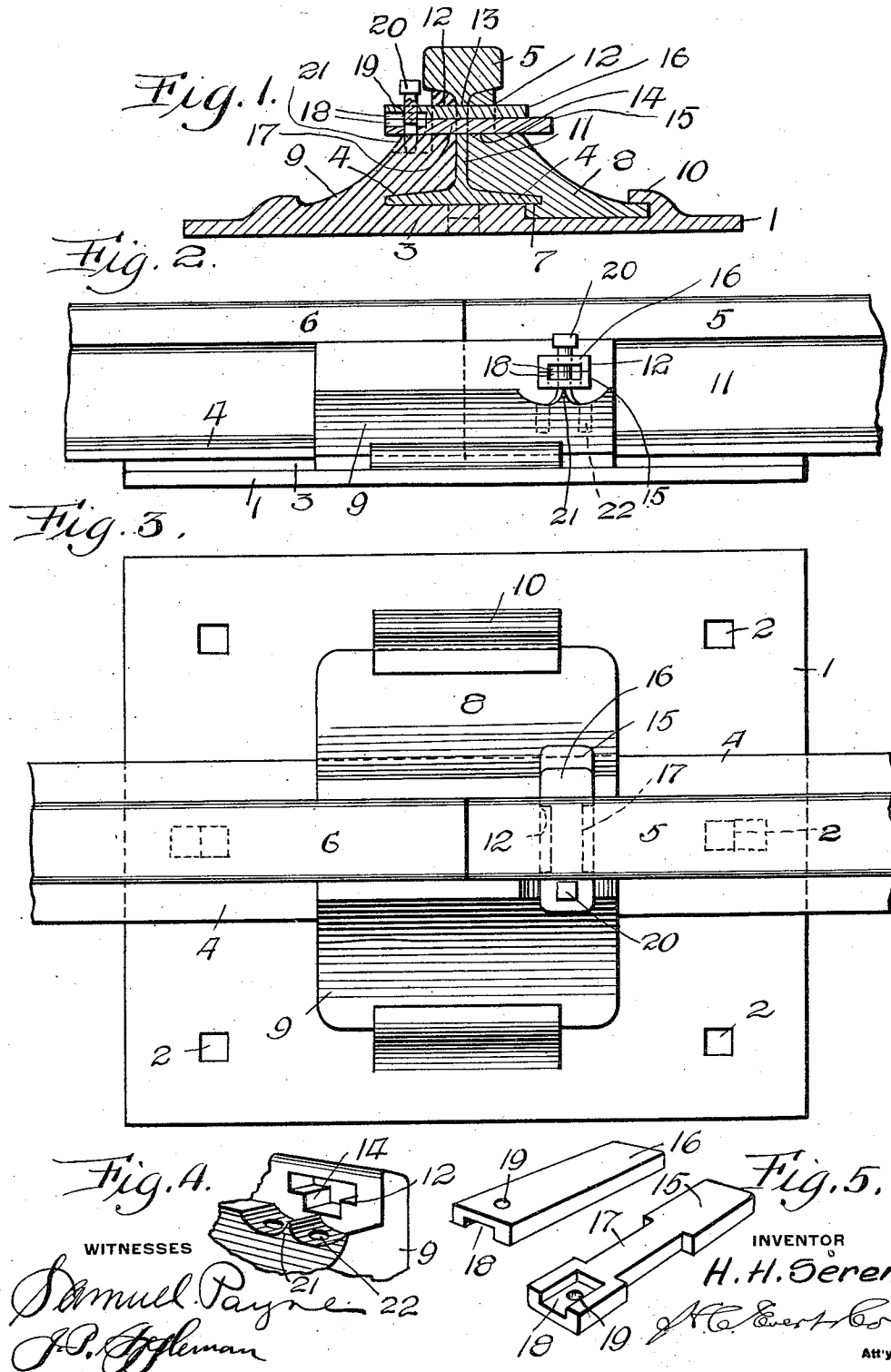


H. H. SERENA.
RAIL JOINT.
APPLICATION FILED JULY 3, 1912.

1,052,286.

Patented Feb. 4, 1913.



UNITED STATES PATENT OFFICE.

HARRY H. SERENA, OF McKEESPORT, PENNSYLVANIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY H. SERENA, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, 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 objects of my invention are to provide a novel rail chair for supporting the confronting ends of rails, and to furnish the chair with fasteners that will prevent vertical and lateral displacement of said rails.

15 Other objects of my invention are to provide a rail chair that can be easily and quickly secured to an ordinary tie, and to provide a chair and rail fastener that can be installed without the use of skilled labor.

20 Further objects of my invention are to obviate the necessity of using bolts and nuts for retaining splice-bars in engagement with the confronting ends of rails, and to accomplish the above results by a mechanical construction that is durable, inexpensive to manufacture, and highly efficient for the purposes for which it is intended.

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

35 Reference will now be had to the drawing, wherein:—

Figure 1 is a cross sectional view of the rail joint. Fig. 2 is a side elevation of the same. Fig. 3 is a plan of the rail joint. Fig. 4 is a perspective view of a portion of a stationary splice bar of the rail joint, and Fig. 5 is a perspective view of part of a fastener.

45 Further describing my invention with reference to the drawing, wherein like numerals denote corresponding parts throughout, 1 denotes a rectangular tie plate that can be supported by one or more ties, said tie plate having openings 2 to receive spikes or other fastening means employed for securing the plate upon ties or other supports. The tie plate 1 is provided with a central longitudinal enlargement 3 forming a seat for the base flanges 4 of rails 5 and 6 that have the ends thereof abutting or confronting upon the tie plate 1. The base flanges 4 of the rails 5 and 6 project

beyond the longitudinal enlargement 3 and engage in longitudinal grooves 7 provided therefor in a stationary splice bar 9 and a detachable splice bar 8 upon the tie plate 1. The splice bar 8 has the outer edge thereof engaging under an overhanging brace 10 that is located centrally of the tie plate 1 and of less length than said tie plate or the splice bar 8. The splice bars 8 and 9 brace the webs 11 and the heads of the rails 5 and 6, and it is in connection with the splice-bars and the rail 5 that I use a fastener, it being not necessary to use a fastener in connection with the end of the rail 6 that is illustrated in the drawing, as the opposite end of said rail can be equipped with a fastener similar to that now to be described.

The splice-bars 8 and 9 have transverse rectangular openings 12 registering with a similar opening 13 in the web 11 of the rail 5, the openings 12 of the splice bars 8 and 9 being located adjacent to the upper edges thereof. The openings 12 of the splice-bars 8 and 9 have the lower walls thereof provided with seats 14, and the opening 13 of the web 11 of the rail 5 corresponds in depth to the openings 12 of the splice bars.

Arranged in the openings 12 and 13 are fastener members 15 and 16, the former having a neck portion 17 that engages in the seats 14 of the openings 12. After the fastening member 15 has been placed in position, the fastening member 16 is placed in the openings 12 and 13 upon the member 15, as best shown in Fig. 1.

The fastener members 15 and 16 can be only placed in position by inserting said members in the opening 12 of the splice bar 8. The ends of the members 15 and 16 that extend from the splice bar 9 have the confronting faces thereof recessed, as at 18 and provided with vertically alining openings 19. The openings 19 accommodate a split pin or key 20, and as said pin passes through the openings 19, the split end thereof encounters a rib 21 that is formed by recessing the splice bar 9, as best shown in Fig. 4. The recesses of the splice bar 9 have sockets 22 and the recesses 18 of the fastener members 15 and 16 permit of a cold chisel or other instrument being placed in engagement with the pin or key 20, whereby said pin or key can be cut to release the members 15 and 16. When the pin or key is cut, the split ends thereof fall into the sockets 22 and the upper end of the pin or key can be

removed from the member 16, thereby allowing the members 15 and 16 to be withdrawn from the openings 12 and 13, when it is desired to disassemble the parts of the rail joints. It is the edge of the fastener member 15 that coöperates with the overhanging brace 10 in retaining the splice bar 8 upon the tie plate 1 and in engagement with the rails 5 and 6.

10 In some instances, the pin or key 20 can be removed by inserting the ends of a crow-bar or other instrument under the head of the pin or key and prying the same from the openings 19 of the fastener members 15 and 16.

While in the drawing, there is illustrated a preferred embodiment of my invention, it is to be understood that the structural elements are susceptible of such changes, as in size, proportion and manner of assemblage as fall within the scope of the appended claims.

What I claim is:—

1. In a rail joint, the combination with rails, of a tie plate adapted to be secured to ties, a longitudinal enlargement carried by said plate and supporting the base flanges of said rails, a splice bar formed integral with said tie plate and engaging the sides of said rails, a detachable splice bar engaging the opposite sides of said rails, an overhanging brace carried by said tie plate for bracing said detachable splice bar, said splice bars having grooves formed therein to receive the edges of the base flanges of said rails, said splice bars having openings formed therein alining with an opening in one of said rails, fastener members extending through the openings of said splice bars, a split pin extending through said fastener members at one end thereof, and a rib car-

ried by one of said splice bars for deflecting the split end of said pin.

2. In a rail joint, the combination with rails, of a tie plate supporting said rails, a splice bar formed integral with said tie plate and bracing the sides of said rails, a detachable splice bar mounted upon said tie plate and engaging the opposite sides of said rails, said splice bars having transversely alining openings registering with an opening in one of said rails, tapering fastener members arranged in the openings of said splice bars, said members having the confronting sides thereof recessed at one end, a split pin extending through said members at the recessed end thereof, and means in connection with one of said splice bars for deflecting the split end of said pin.

3. In a rail joint, the combination with rails, of a tie plate supporting said rails, splice bars carried by said tie plate and bracing said rails, said splice bars having transverse openings alining with an opening in one of said rails, said openings having seats, a tapering fastener member arranged in said openings and having a neck engaging in the seats thereof, another fastener member arranged in said openings upon the first mentioned fastener member, said fastener member having the confronting sides thereof recessed at one end, a split pin extending through the recessed ends of said members, and means in connection with one of said splice bars for deflecting the split end of said pin.

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

HARRY H. SERENA.

Witnesses:

MAX H. SROLOVITZ,
KATHERINE ERRETT.