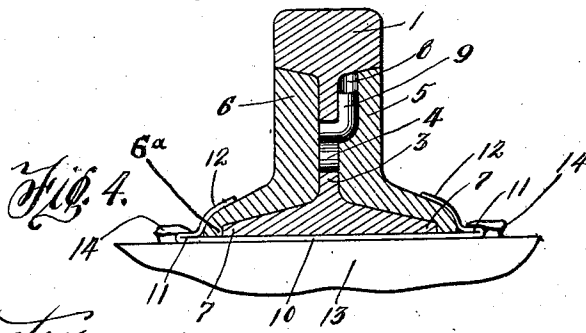
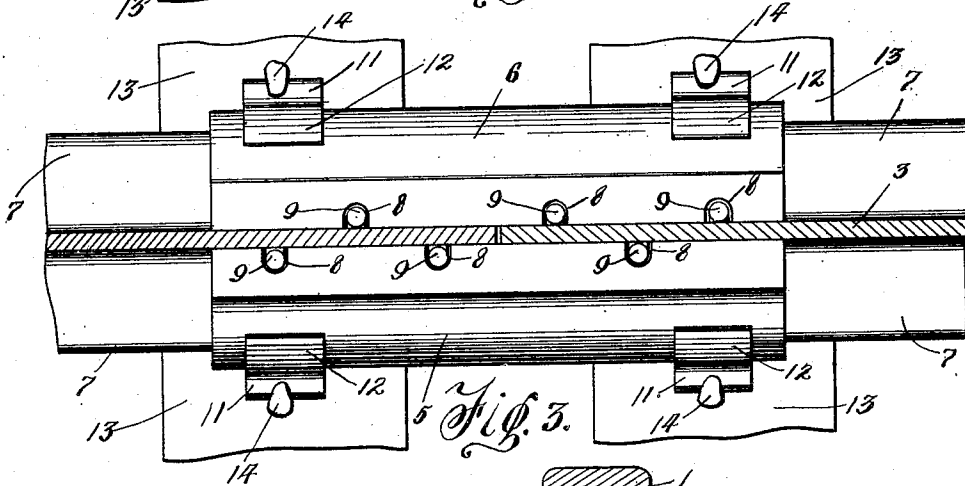
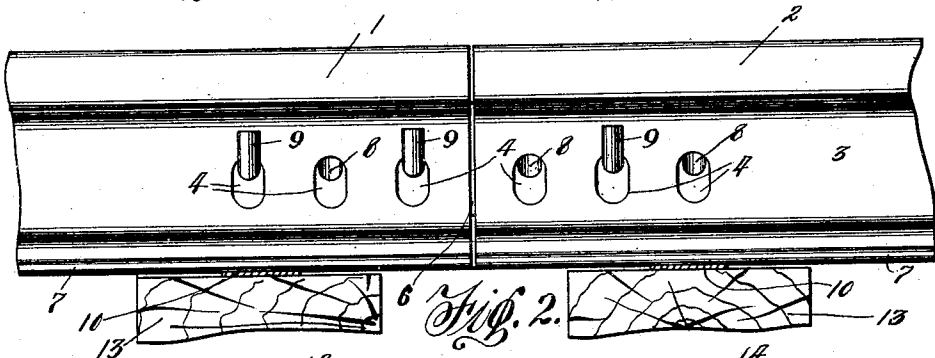
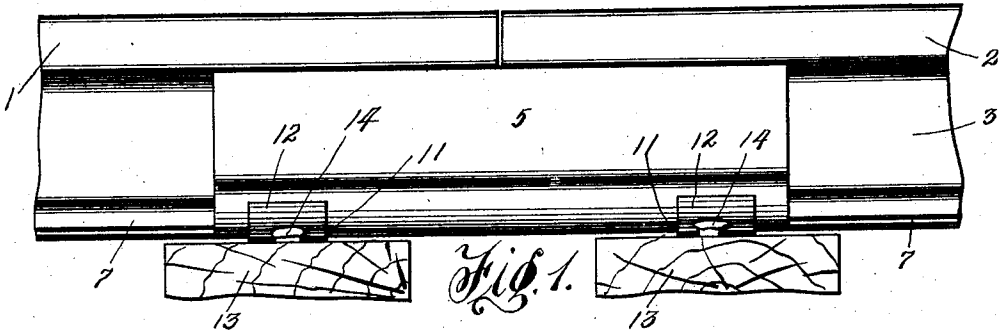


R. J. PRICE.
RAIL JOINT.

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933,581.

Patented Sept. 7, 1909.



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ROBERT JOHN PRICE, OF NEW CASTLE, PENNSYLVANIA.

RAIL-JOINT.

933,581.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT JOHN PRICE, a citizen of the United States of America, residing at New Castle, in the county of Lawrence 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 has special reference to that class in which the use of bolts and nuts as a rail fastening medium for splice bars is dispensed with.

15 The paramount objects of the invention are to provide positive and reliable means for connecting the confronting ends of two rails; to afford means for preventing lateral and vertical displacement for the confronting ends of two rails; and to furnish means
20 for easily and quickly connecting two rails without the use of skilled labor.

25 Other objects of my invention are to provide a simple and durable rail joint; to so design and construct the parts as to give the requisite strength and rigidity without the usual increase in the weight and dimension and to supply movable parts having the desirable qualities and so related as to be readily assembled or repaired.

30 I accomplish the above objects by a construction and arrangement as illustrated in the accompanying drawing, which forms part of this specification, and in which,

35 Figure 1 is a side elevation of a rail joint, Fig. 2 is a side elevation with one of the fish plates or splice bars removed. Fig. 3 is a sectional plan, and Fig. 4 is a cross sectional view.

40 Referring to the drawings in detail 1 and 2 denote a pair of rails each having its web portion 3 at one end thereof provided with a plurality of openings 4 which are equally spaced. The openings 4 are oblong in contour and each is vertically disposed with respect to the web 3. The opposing ends of the rails, 1, 2 are arranged in close proximity to each other.

45 Mounted against the webs 3 of the opposing ends of the rails and against each side of the webs are the fish plates or splice bars 5 and 6. The fish plates brace the webs 3 and are of a height so as to engage the lower face of the head of the rails and at their lower ends are offset as at 6^a so as to engage
50 the upper face of the base 7 of the rails and to further engage the longitudinal edges of

the base of each rail. The inner face of each of the fish plates is formed with a plurality of grooves 8 which are equally spaced and extend from the center of the inner face to the top edge of a fish plate, each of the grooves 8 being of a length equal to half the height of the inner face of each fish plate. The grooves 8 of the splice bar 5 are arranged in staggered relation with respect to the grooves 8 of the splice bar 6, as shown in Fig. 3 of the drawing. The inner face of each of the fish plates is furthermore provided with a plurality of laterally-extending angle shaped pins 9, the pins 9 of one fish plate are alternately disposed with respect to the grooves 8 of its respective fish plate. The vertical portion of each of the pins 9 is of less height than the length of the groove 8. When the fish plates 5 and 6 are in position the pins 9 of the fish plate 5 extend through alternate openings 4 and engage in the grooves of the fish plate 6 and the pins 9 of the fish plate 6 extend through the remaining openings 4 and engage in the grooves 8 of the fish plate 5. The length of the horizontal portion of each of the pins 9 is approximately the same as the thickness of the web 3 so that when the pins 9 are in position the vertical portion of the pins 9 will snugly engage both faces of the web 3 whereby the fish plates 5, 6 will be coupled to the rails and the opposing ends of the rails will be connected together. The shape of the openings 4 in the web 3 is such as to allow of the convenient positioning of the pins through the webs so that the fish plates will be quickly coupled in position.

The ties or sleepers are indicated by the reference character 13 and mounted upon each tie 13 is a tie plate 10, said plate extending in the direction of the length of the tie upon which it is mounted and when the fish plates are mounted in position, the lower edge of each is seated upon the tie plates as the length of the fish plates is such as to cause the fish plates to extend over and upon a pair of ties 13. The tie plates 10 are of a length as to project from each fish plate and the projecting ends are bent upon themselves to provide spike grips 11 and to further provide clamps 12 for engagement with the portion 6^a of the fish plates 5, 6 whereby when the plates 10 are secured to the ties 13 by the spikes 14 the clamps 12 will securely maintain the lower portion of the fish plates in position.

Having now described my invention, what I claim as new, is;—

1. A rail joint comprising the combination with the web portions of the opposing ends of a pair of rails, said web portions provided with vertically disposed openings, of fish plates mounted against said web portions and each having its inner face provided with vertically disposed grooves and laterally-extending angle-shaped pins, the pins being alternately disposed with respect to the grooves, said pins adapted to extend through the openings in the web portions for coupling the fish plates and the rails together, the horizontal portion of each of said pins being approximately of a length equal to the thickness of the webs of the rail whereby the vertical portion of said pins will engage throughout the outer faces of the webs, said grooves being semi-cylindrical in cross section and said pins being cylindrical in cross section, and said grooves adapted to receive the vertical portions of said pins and said grooves extending from the center of the fish plates to the top thereof.

2. A rail joint comprising the combination with the web portions of the opposing ends of a pair of rails, said web portions provided with vertically disposed openings, of fish plates mounted against said web portions

and each having its inner face provided with vertically disposed grooves and laterally-extending angle-shaped pins, the pins being alternately disposed with respect to the grooves, said pins adapted to extend through the openings in the web portions for coupling the fish plates and the rails together, the horizontal portion of each of said pins being approximately of a length equal to the thickness of the webs of the rail whereby the vertical portion of said pins will engage throughout the outer faces of the webs, said grooves being semi-cylindrical in cross section and said pins being cylindrical in cross section, and said grooves adapted to receive the vertical portions of said pins and said grooves extending from the center of the fish plates to the tops thereof, and tie plates provided with spike grips and clamps, said clamps adapted to engage said fish plates, and said spike grips adapted to be engaged by hold fast devices whereby the tie plates are connected to the ties.

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

ROBERT JOHN PRICE.

Witnesses:

FRANK McCLAIN,
ISAAC D. COLE.