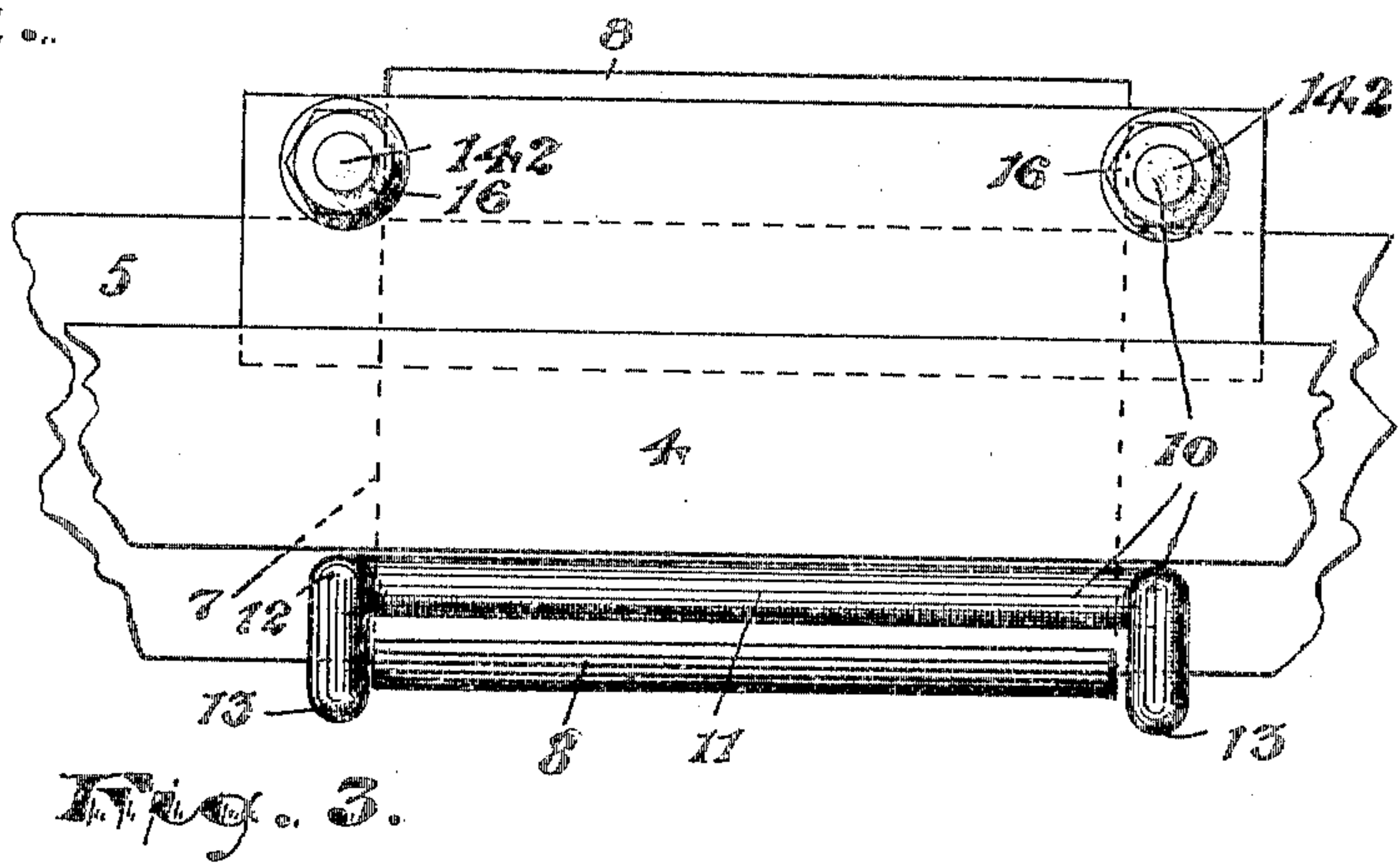
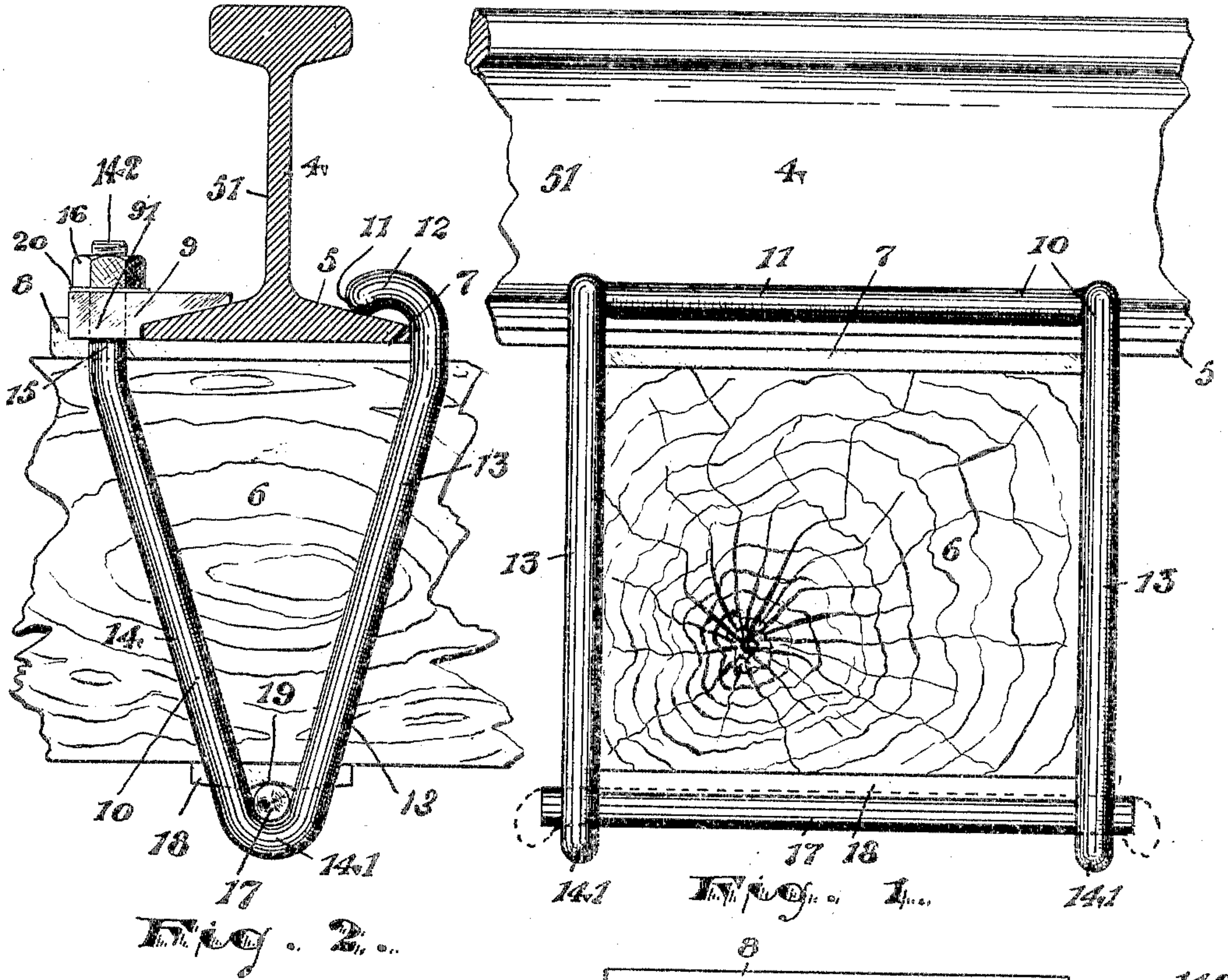


No. 793,847.

PATENTED JULY 4, 1905.

D. E. OLDS.
RAIL FASTENING.
APPLICATION FILED SEPT. 20, 1904.



Witnesses *David E. Olds*, Inventor,
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UNITED STATES PATENT OFFICE.

DAVID E. OLDS, OF NEWARK, NEW JERSEY.

RAIL-FASTENING.

SPECIFICATION forming part of Letters Patent No. 793,847, dated July 4, 1905.

Application filed September 20, 1904. Serial No. 225,166.

To all whom it may concern:

Be it known that I, DAVID E. OLDS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rail-Fastenings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

The objects of this invention are to obtain increased durability in wooden ties such as are commonly used in railroads; to avoid making spike-holes therein and the consequent formation of pockets or receptacles for water in the heart of such ties, and consequently to prevent the rotting due to moisture; to more effectually hold the rail in position upon the tie and to prevent spreading of the rail under the impact of the wheels traveling thereover, and to secure other advantages and results some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved rail-fastening device and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the claims.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a front view of my improved device in connection with a tie shown in section and a portion of a rail. Fig. 2 is a side view of the same; and Fig. 3 is a plan, the said views being deemed sufficient to fully illustrate the invention.

In said drawings, 4 indicates an ordinary railway-rail having a base-flange 5 projecting horizontally from opposite sides of the web 51 of said rail. The said rail is preferably set upon the tie 6 indirectly, a metallic tie-plate 7 being preferably interposed between the base-flange and said tie. The said tie-plate 7 is preferably provided at its opposite longitudinal edges with upturned ribs 8 8,

which are proportioned in their relative arrangement with respect to one another so as to permit both the flanges 5 and the downward extension 91 of a keeper-plate 9 to be seated therebetween for purposes hereinafter explained.

The rail 4 is rigidly held upon its seat on the tie or tie-plate by means of a frame-like yoke 10, which is preferably bent up from a single piece of heavy steel or iron rod of a strength ample for the purposes hereinafter described. In the said frame I provide a horizontal bearing 11, which is straight and adapted to run parallel with the edge of the flange of the rail and bear down on said flange, as shown in the three figures of the drawings. At the opposite ends of the said horizontal bearing 11 the said rod is bent perpendicular or away from the web of the rail, each perpendicular extension being first preferably bent upwardly, as at 12, Fig. 2, and then downwardly, as at 13, the downward extensions being of suitable length to lie against the opposite sides of the tie, as shown in Fig. 1. At a point below the level of the under side of the tie the said rod is again bent, as at 141, the upward extensions 14 thereof forming with the downward extensions 13 V-shaped figures, as shown in Fig. 2. The upward extensions 14 at or near their upward extremities are bent again to stand vertically or parallel with the web of the rail, the vertical extensions 142 projecting above the flange 5 of the rail and being thereat threaded to receive a clamping-nut 16. The said vertical extension 142 projects through the keeper-plate 9, which latter is perforated to receive the same. In the angle formed in the opposite V-shaped parts of the frame-like yoke is arranged a key or horizontal rod 17, which preferably bears upward against a bearing-plate 18, centrally provided with a shallow groove 19, Fig. 2, to receive said rod. The said rod 17 may be short, so as to extend merely from one V-shaped part of the frame-like yoke to the other; but I may utilize this rod or key further by making it hollow and extending it indefinitely, as convenience may dictate, and thus I may employ it as a receptacle for electric wires or for other purposes. Means may be provided when the

key is short to prevent the same from working loose. This may be accomplished by bending the ends downward, as indicated in outline in Fig. 1, or in any other suitable manner.

5 The keeper-plate 9 at its upper inner part is beveled in correspondence with the inclined upper face of the flange 5, as shown in Fig. 2, to overlie said flange and present a horizontal surface at the top against which the
10 nut 16 or washer 20 may be arranged. The lower part of said keeper presents a long lip or extension 91, which lies between one edge of the flange 5 of the rail and the rib 8 of the tie-plate 7, fitting between said parts closely,
15 so as to prevent any lateral movement to the rail, it being understood that the said flange 5 at its opposite edges bears directly against another upturned lip of said tie-plate.

The parts thus described are constructed to
20 permit of the frame or yoke 10 being applied to the rail and tie, and when the key 17 is inserted beneath the tie and the keeper-plate is applied to the upper extremities 142 of the frame the latter bears against the upper surface of the
25 flange of the rail. The nuts 16 being applied to the threaded extremities and screwed up, all as shown in the drawings, the rail will be held on its seat on the tie with very great firmness and security, and, as will be obvious, the
30 tie 6 will remain uninjured interiorly, so that its effective life will be greatly prolonged. The device permits of a ready removal thereof from the rail when changes are to be effected without injury to any of said parts, so that
35 when once supplied the device can be used repeatedly and for a long period.

Having thus described the invention, what I claim as new is—

1. As an article of manufacture, a rail-fastener, comprising an integral rod of metal
40 bent to form a bearing 11, to engage the top of the flange of the rail near one edge thereof, and having tie extensions adapted to project below the level of the bottom of the tie, and
45 having upward extensions, adapted to project above the flange of the rail, and thereat threaded to receive a clamping-nut, substantially as set forth.

2. The combination of the rail and tie, of a
50 V-shaped rod, bearing against the top and near one edge of the flange of the rail, and provided with a keeper-plate adapted to project over and against the top of the opposite edge of the flange of the rail, a nut clamping said
55 keeper-plate against said flange, and a key lying beneath the tie and holding said V-shaped frame in place, substantially as set forth.

3. The combination with the rail and tie, of a
60 rod bent at the top of one extension to engage the top near one edge of the flange of the rail, and at the bottom bent to receive a key, and having a threaded extension adapted to project above the opposite side or edge of the flange, a key, a keeper-plate and a nut ar-

65 ranged on said threaded extension and adapted to engage the top of the flange at the said opposite side, substantially as set forth.

4. The improved rail-fastener, comprising a rod having a straight extension to lie against the flange of the rail at one side thereof, and
70 having at opposite ends of said straight extension V-shaped parts adapted to lie on opposite sides of the tie and having vertical extremities adapted to receive nuts to engage the opposite side of the flange, substantially
75 as set forth.

5. The combination with the frame having two V-shaped parts connected by a bearing extension 11, the extremities of said V-shaped parts being threaded, a key to lie in the angle
80 of said V-shaped parts, a keeper-plate and nuts, substantially as set forth.

6. The combination with the rail and tie, of a frame having an extension bearing at one side of the flange of said rail, V-shaped parts
85 extending from said flange downward below the bottom of the rail at opposite sides thereof, a keeper-plate attached to said frame at the opposite side of the said flange from that having the said extension bearing thereon,
90 nuts, and a key inserted in the angles of the V-shaped parts and extending underneath the rail, substantially as set forth.

7. The combination with the flanged rail and tie, of a tie-plate interposed between the said
95 rail and tie and having at its opposite longitudinal edges upturned ribs, a bottom bearing-plate and a yoke extending from the key upward and over the flange of the rail, and holding the latter onto said tie-plate.
100

8. The combination with the flanged rail and tie, of a yoke bearing at its upper end upon the flange of the rail and extending down therefrom to a key and said key arranged beneath the tie and adapted to fasten the yoke and hold
105 the rail rigidly on the tie.

9. The combination with the flanged rail and tie, a tie-plate interposed between the said rail and tie and having at its opposite longitudinal edges upturned ribs, a bottom bearing-
110 plate underneath the tie, a key underneath the bottom bearing-plate and a frame-like yoke extending from the key upward at opposite sides of the tie and over the flange of the rail and holding the latter onto said tie-plate.
115

10. The combination with the flanged rail and tie, a yoke bearing at its upper end upon the flange of the rail and extending down therefrom to a key and said key arranged beneath the tie and being separable from the yoke and
120 tie, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of September, 1904.

DAVID E. OLDS.

Witnesses:

RUSSELL M. EVERETT,
M. V. DOYLE.