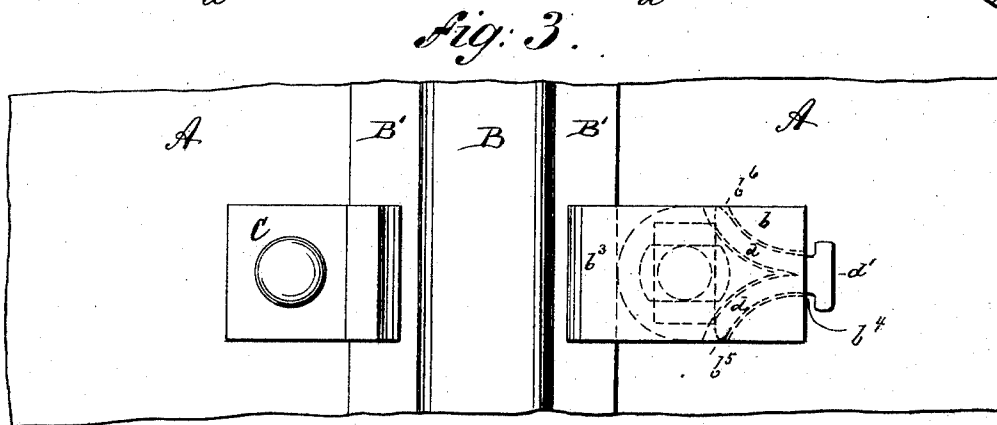
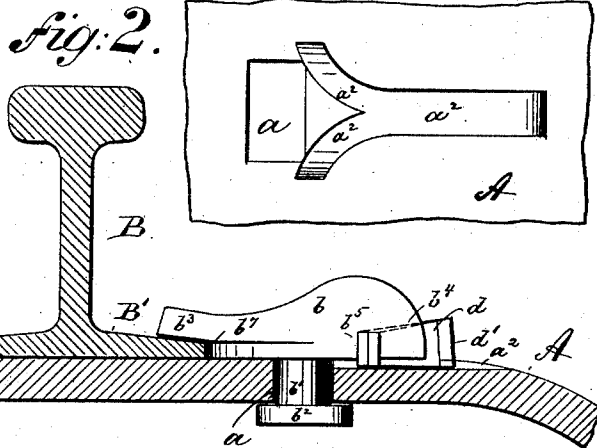
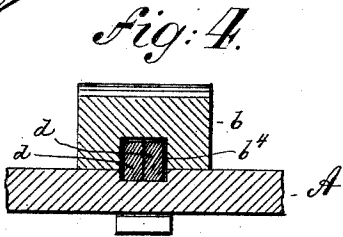
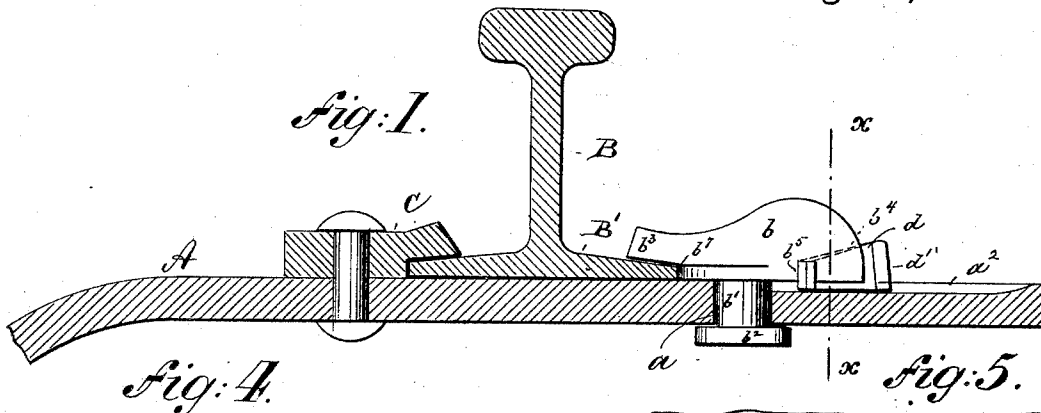


(No Model.)

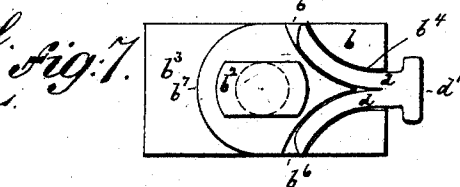
B. F. & M. F. SPARR.
RAIL FASTENING.

No. 503,442.

Patented Aug. 15, 1893.



WITNESSES:
A. Schehl.
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UNITED STATES PATENT OFFICE.

BENJAMIN F. SPARR AND MILLARD F. SPARR, OF BROOKLYN, NEW YORK.

RAIL-FASTENING.

SPECIFICATION forming part of Letters Patent No. 503,442, dated August 15, 1893.

Application filed July 15, 1892. Serial No. 440,107. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. SPARR and MILLARD F. SPARR, of Brooklyn, Kings county, New York, have invented an Improved Rail-Fastening, of which the following is a specification.

This invention relates to an improved rail fastening more particularly designed for attaching the rails to metallic ties.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings: Figure 1 is a cross section of a railway rail provided with one of our improved fastenings; Fig. 2 a similar section of a rail provided with two fastenings; Fig. 3 a top view of Fig. 1; Fig. 4 a section on line x, x , Fig. 1; Fig. 5 a top view of part of the tie A; Fig. 6 an elevation of the key d , and Fig. 7 a bottom view of the dog b .

The letter A, represents a metallic tie provided with an elongated slot a , at the side of the rail B.

The dog b , that attaches the rail to the tie, is provided with a shank b' , projecting through the slot a , and terminating in an elongated foot or shoe b^3 . To secure the dog in place it is first held parallel to the rail so as to permit the foot to pass through the slot and then it is revolved ninety degrees, so that the foot stands at right angles to the slot. In this position a nose b^3 , on the dog b , bears upon the top of the rail flange B' and holds it down, while a shoulder b^7 , bears against the edge of the flange B' and prevents shifting in a lateral direction. Through the dog b , there extends a longitudinal groove b^4 , opening toward the rear and open also at the bottom (Fig. 7). This groove divides up toward the front into two diverging channels b^5, b^6 , one opening at each side of the dog. The groove b^4 , is entered into by a split wedge or key d , having a head d' . This wedge extends longitudinally through the dog so as to project with its base rearwardly beyond the same and to stand at right angles to the rail. As this key is driven home into the groove b^4 , its shanks will be caused to spread so that one shank enters the groove b^5 , and the other shank enters the groove b^6 . The result of this will be that the key is tightly seated, and that it will

so tilt the dog upon the shank b' , that the nose b^3 , will bear with uniform pressure upon the rail flange B' , from one side of the dog to the other. In order to properly guide the key d , the groove b^4 , should be of angular form in cross section and the key should be of a similar shape (Fig. 4). So also should the tie A, be provided with a divided groove a^2 (Fig. 5) beneath the dog, for the reception of the base of the key.

In Fig. 1, we have shown the rail B, held down by our improved fastening at one side only, while at the other side it is held down by fastening C, secured to the tie permanently by a bolt. This construction is desirable where lateral adjustment of the rail is not required. But where such adjustment is required (for instance on curves) our improved dog is employed on each side of the rail. The shoulders b^7 of the dogs on opposite sides are made of unequal length, so that on a reversal of the dogs, the rail will be shifted to an extent equal to the difference in the length of the shoulders, as will be readily understood.

The advantages connected with our improved fastening device are that it is readily applied and that it will not become spontaneously displaced and that it binds the rail uniformly along its entire edge.

What we claim is—

1. A rail fastening composed of a dog that engages the tie and the rail flange and has a rearwardly opening groove and of a key received by said groove and extending longitudinally through the dog and at right angles to the rail, substantially as specified.

2. A rail fastening composed of a dog having a shank adapted to engage the tie, a nose and shoulder adapted to engage the rail and a divided rearwardly opening groove adapted for the reception of a split key, substantially as specified.

3. The combination of a grooved and slotted metallic tie with a dog having a nose b^3 , shoulder b^7 , a rearwardly opening divided groove and with a split key adapted to enter said groove, substantially as specified.

BENJAMIN F. SPARR.
MILLARD F. SPARR.

Witnesses:

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A. JONGHMANS.