W. E. O'BRIEN & E. J. QUINN.

RAIL FASTENER.

APPLICATION FILED OCT. 2, 1912.

1,067,438. Patented July 15, 1913.

Fig. 1.

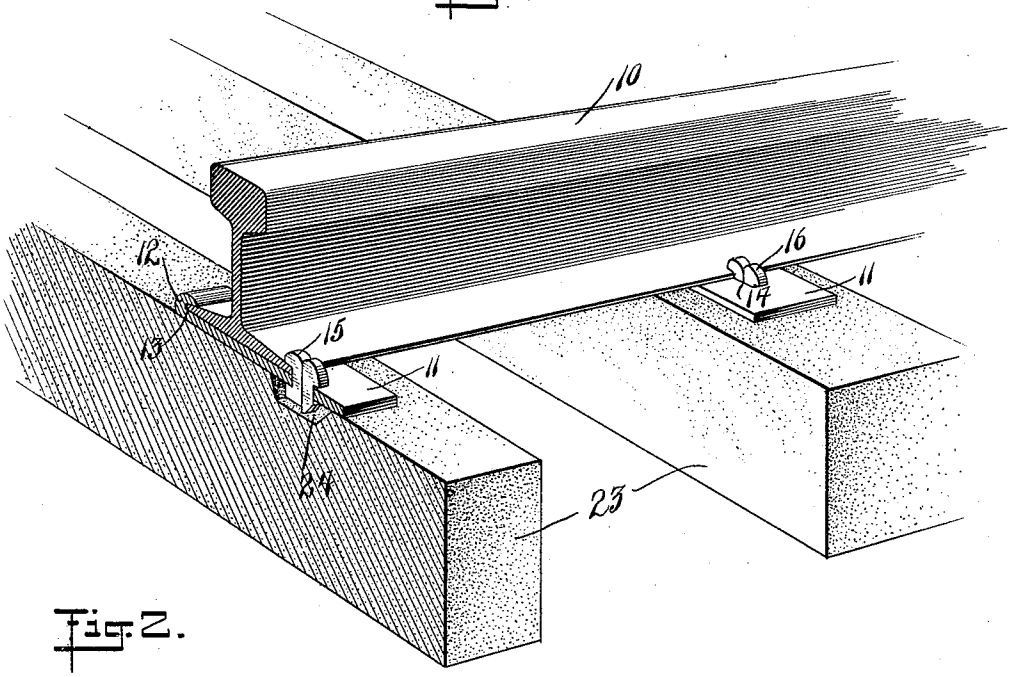


Fig. 2.

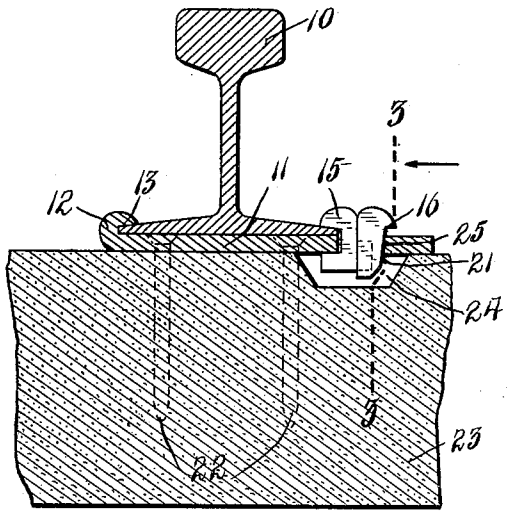
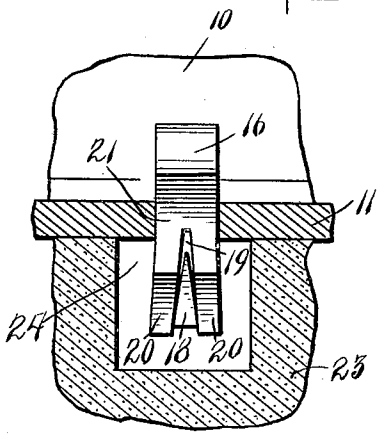


Fig. 3.



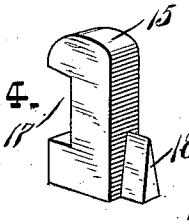


Fig. 4.

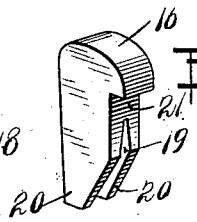


Fig. 5.

WITNESSES

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RAIL-FASTENER.

1,067,438. Specification of Letters Patent. Patented July 15, 1913.

Application filed October 2, 1912. Serial No. 723,493.

To all whom it may concern:

Be it known that we, WILLIAM E. O'BRIEN and EDWARD J. QUINN, citizens of the United States, and residents of Kenosha, in the county of Kenosha and State of Wisconsin, have invented a new and Improved Rail-Fastener, of which the following is a full, clear, and exact description.

This invention relates to rail fasteners and has reference more particularly to a device of this class which comprises a bearing plate having means for clamping the rail in a predetermined position on a railway tie.

An object of the invention is to provide an inexpensive rail fastener, simple, strong and reliable in its construction, by means of which the rail can be easily and quickly attached to the tie.

A further object of the invention is to form a rail fastener such that the bed or bearing plate supports the rail and carries the gripping means, preventing the lateral displacement of the same.

A still further object of the invention is to provide a rail fastener having a bearing plate being adapted to be attached to a tie and having locking means wedged in the bearing plate and wedging the rail on said plate.

A practical embodiment of the invention is disclosed in the structure illustrated in the accompanying drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a sectional perspective view of an embodiment of our invention; Fig. 2 is a central cross section of the same; Fig. 3 is a section on the line 3—3 of Fig. 2; Fig. 4 is a perspective view of the key; and Fig. 5 is a perspective view of the wedge.

Referring more particularly to the drawings, 10 is a rail supported by a bed plate 11. Integrally formed with the bed plate 11 and at full length of the end and at the end and parallel to the side of the rail is a supporting jaw 12 provided with a recess 13 receiving one of the edges af the base flange of the rail 10. Centrally disposed on the plate 11 and at a distance of the width of the base flange of the rail from the recess in the jaw 12 is a rectangular aperture 14, said aperture being adapted to receive a key 15 and a wedge 16. The key 15 is provided with a recess 17 made to engage the end face of the bed plate 11 and the edge of the base flange of the rail 10 opposite the one engaged in the recess 13 of the jaw 12. Centrally disposed near the lower end and on the face opposite provided with the recess 17 and the key 15 is a projecting wedge portion 18 rigidly formed with and lying in a plane normal to the direction of the rail. The wedge 16 is provided with a slit 19 running from the lower end to its middle, and lying in the same plane with the projecting wedge portion 18 and engaging the same. The two jaws 20 formed by the slit 19 in the lower end of the wedge 16 in consequence of the engagement of the projecting wedge portion 18 and sleeve 19 are spread and bear against the lower face of the bearing plate, as best seen in Fig. 3. The face 21 of the wedge 16 bearing against the bed plate is slightly beveled toward the bottom, thus permitting different degrees of pressure on the base flange of the rail 10 inclosed between the jaw 12 and key 15.

The bearing plate 11 is firmly attached by means of bolts 22 to a railroad tie 23, said tie having a recess 24 centrally disposed with the aperture 14 of the plate 11 and adapted to receive the parts projecting below the lower face of the bed plate 11 of the key 15 and wedge 16. The bed plate 11 being firmly attached to a tie receives the rail 10 so that one side or edge of the base flange of the rail 10 engages in the recess 13 of the jaw 12, the recess 13 having the same cross section as the base flange of the rail engaging it, and then into the aperture 14 of the bed plate 11 the key 15 is introduced with the wedge 17 facing the rail, it being understood that the aperture is large enough to admit the key provided with the projecting wedge portion 18. The recess 17 is made to engage the edge of the base flange of the rail and the lower face of the bed plate 11, and again the cross section of the recess 17 being similar to the edge of the base flange of the rail and bed plate combined, as is best seen in Fig. 2. After the key is placed as above described, the wedge 16 is introduced into the aperture 14 so that the slit 19 registering with the projecting portion 18 of the key 15 and the slight beveled face 21 bears against the side 25 of the rectangular aperture 14 of the bearing plate 11.

In forcing the wedge 16 into the aperture, due to the slightly beveled face 21, the op-

posite face of the wedge 16 bearing against the key 15 forces the same against and on the edge of the base flange of the rail, which rail in turn supported on and by the bearing plate is forced with the opposite edge of the base flange of the rail against the jaw 12, whereby the rail is clamped by the wedging action of the wedge 16. While the wedge 16 is forced into the aperture 14 of the bearing plate 11 to clamp the rail on the same, the projecting wedge portion 18 of the key 15 registering with the slit 19 of the wedge 16 forces the jaws 20 apart so that the jaws 20 below the lower face of the bed plate 11 are spread and wedge the wedge 16 in the aperture and in a plane normal to the wedging action produced by the face 21 on the wedge 16. It might be remarked that the wedge 16 in reality straddles over the projecting wedge portion 18 of the key 15.

To disengage a rail from our rail fastener, a crow-bar is simply applied under the edge of the wedge 16 and the wedge forced upwardly by the crow-bar is forced out of the aperture. Then the key 15 and the rail may be removed, as can be easily seen.

Inasmuch as our rail fastener is formed of very few parts, as seen from the drawings, it is a positive lock for a rail, as the wedge 16 clamping the tie is itself so wedged as to prevent any danger of it being released from the aperture, and in consequence its grip on the key 15 and side 25 of the bed plate 11 is permanent and can be adjusted by simply forcing the wedge in.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

A device of the class described comprising a bed plate having a jaw adapted to engage the edge of the base flange of a rail, a rectangular aperture near the opposite side of said bed plate and normal to the said jaw, a key projecting through said aperture and adapted to engage the edge of the base flange of the rail and the bed plate with one face, and a projecting wedge portion on the opposite side of said face, and a wedge projecting also through said aperture and bearing on one side against said key and on the opposite side against said bearing plate, thus wedging said key against the edge of the rail, and said wedge having a slit centrally disposed in the lower end of said wedge and in engagement with said wedge projecting portion of said key, said wedge straddling over and above said wedge projecting portion of said key by means of said slit, whereby said wedge is wedged in said aperture.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM E. O'BRIEN.
EDWARD J. QUINN.

Witnesses:
PETER FISHER,
CHARLES A. TARBELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."