

J. FAGER.
RAIL SUPPORT AND FASTENER.
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1,045,269.

Patented Nov. 26, 1912.

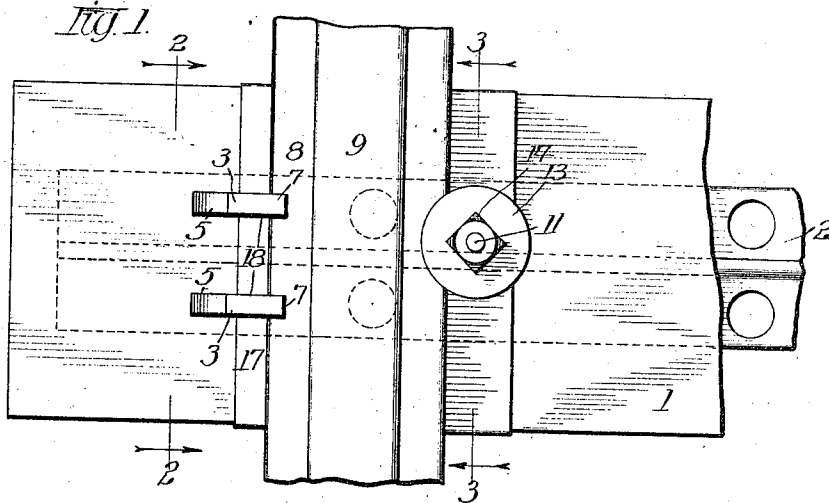


Fig. 2

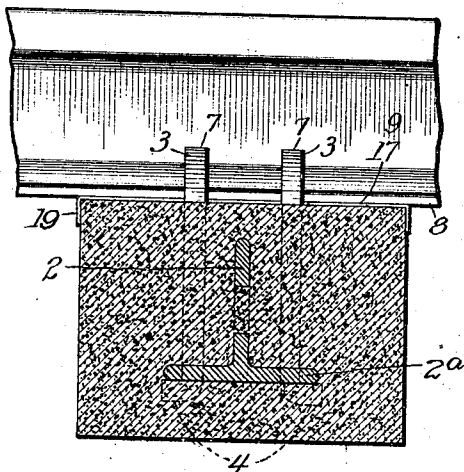


Fig. 3

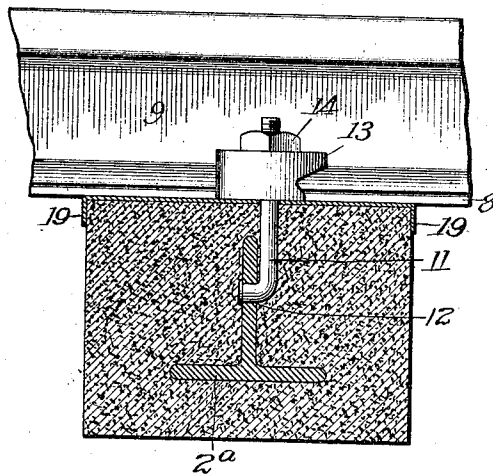


Fig. 4.

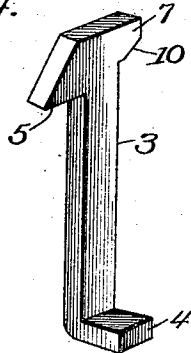
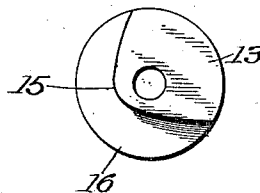


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES FAGER, OF DIXON, ILLINOIS.

RAIL SUPPORT AND FASTENER.

1,045,269.

Specification of Letters Patent.

Patented Nov. 26, 1912.

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To all whom it may concern:

Be it known that I, JAMES FAGER, a citizen of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Rail Supports and Fasteners, of which the following is a specification.

This invention relates to means for supporting and fastening rails which are to be used for traction or other purposes, either where the rail is supported on ties, as is usually the case with steam railroads, or where the rails are supported upon a continuous cement or concrete foundation, as is frequently the case with street railroads in large cities.

The object of the invention is to provide a strong solid and cheap foundation for the rails, and to produce fasteners, connected with the foundation, which are inexpensive and by means of which the rails may be quickly and strongly clamped to the foundation, or may be easily removed therefrom.

Figure 1 of the accompanying drawings is a plan view of one embodiment of my invention. Fig. 2 is a section of Fig. 1 along the lines 2. Fig. 3 is a section along the lines 3 of Fig. 1. Fig. 4 is a perspective view of one of the rail fasteners, and Fig. 5 is an inverted perspective view of a cam collar used in connection with one of the other fasteners.

In this embodiment of my invention I have indicated by the drawings, and will describe, a tie which reaches, as in the ordinary manner, from one rail to the other, and to which the rail is clamped by the fasteners. In Fig. 1 a portion only of the tie is shown.

The tie 1 is composed of cement or concrete reinforced by the bar 2, said bar being T-shaped in cross-section, and having bonding perforations therein. The fasteners 3 may be formed from bar iron or other suitable material and have on their lower ends hooks 4 which pass through perforations in the base 2^a of the bar 2, and are embedded with the bar in the cement. The upper end of each of these fasteners has a shoulder 5 which is flush with the upper surface of the cement. Each fastener has also a projection 7 which extends over the upper surface of the flange or foot 8 of the rail 9. This projection has a taper 10 rising toward its outer end to fit the ordinary taper on the foot of

the rail. The height of this projection is such that the foot of the rail will ordinarily not press against the upright portion of the fastener, but will be wedged under the projection. A tie plate 17 is placed between the rail and the cement.

The fastener 11 is located on the side of the rail opposite the other fasteners; its lower end is bent and passes through an opening 12 in the reinforcing bar, and is riveted therein. The upper end is threaded, and is of sufficient length to receive the cam collar 13 and to secure the collar by means of the nut 14. This collar consists of a cam portion 15 and a flange 16. When placed on the fastener, the flange is adapted to project over the foot of the rail and hold it firmly downward, while the cam is adapted, when the collar is rotated, to push against the edge of the rail foot and push the rail firmly against the opposite fasteners. The flange is also tapered on its lower surface so as to fit the upper surface of the foot of the rail. The collar is firmly pressed downward by means of the nut 14 when the rail has been pushed against the opposite fasteners by the cam.

In order to fix the rail in position it is necessary only to slip the rail in place with its foot under the projections of the fasteners 3; place the collars and nuts on the fasteners 11; turn the collar cam tightly against the rail by means of an ordinary pipe wrench, or by any other suitable means, one of which may be a bar placed between the rail and the cam surface; and then tighten sufficiently the nut. To remove the rail the nuts and collars fastening the rail may be quickly removed and the rail lifted from its place.

The rail support may be made of individual ties or the entire foundation may be a continuous body of cement or concrete with the reinforcing bars placed at suitable distances apart. In either case, tie plates 17 may be placed under the rail on the support, the fasteners 3 projecting through the plates, as indicated in Fig. 1, the fasteners 11 passing through perforations in the plates.

In the present embodiment of the invention I have placed open slots 18 in the edge of the tie plate so that the tie plate may be quickly placed over the fasteners. Where individual ties are used the tie plates may have flanges 19 adapted to embrace the tie

so that the plates may be more conveniently positioned.

I do not limit myself to the details of construction herein shown, for various modifications within the scope of the claims will occur to those skilled in the art.

I claim as my invention:

1. The combination of a rail support and rail fasteners, comprising a body of cement, a reinforcing bar embedded in and extending longitudinally through said body, said bar having perforations therethrough, one of said rail fasteners having its lower end hooked through one of said perforations and the other end having a projection on each edge, one of said projections adapted to rest on the upper surface of a rail foot; and a second rail fastener comprising a screw hook bolt, one end of said bolt being hooked into one of the said perforations in said reinforcing bar, the other adapted to clamp said rail to the surface of the concrete body, the respective fasteners being positioned on opposite sides of the rail.

2. The combination of a rail support and fasteners comprising a body of concrete, a reinforcing bar embedded in and extending longitudinally through said concrete, said bar having perforations therein; two rail fasteners, the lower end of each of said fasteners embedded in said concrete and passing through a perforation in the flange of said bar and hooked to said flange, the other end of each of said fasteners adapted to be hooked to the foot of a rail, said fasteners positioned adjacent to each other on

opposite sides of said bar; and a third fastener with one end embedded in said concrete, spaced from said first mentioned fasteners to allow a rail therebetween; the lower end of said third fastener hooked into a perforation in said bar; a loose collar on the upper end of said third fastener; a thread on the upper end of said third fastener adapted to receive a nut above said collar; a cam on said collar adapted to press said rail foot against said other fasteners, and a flange on said collar adapted to clamp said rail foot downward against said concrete surface.

3. The combination of a rail support and rail fasteners comprising a body of cement; a T-shape reinforcing bar embedded in and extending longitudinally within said body; two rail fasteners connected to the horizontal web of the T-shape bar and immovably embedded in the cement, and each having a wedging head adapted to overhang one side of the foot of a rail; and a rail fastener having a stem connected to the vertical web of the T-shape bar and immovably embedded in the cement; a collar on said stem adapted to overhang the other side of the foot of the rail; and means to secure said collar on said stem.

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

JAMES FAGER.

Witnesses:

F. E. STITELEY,
C. H. STITELEY.