B. B. BETTS.

RAILWAY RAIL ANCHOR.

APPLICATION FILED MAR. 25, 1908.

996,904. Patented July 4, 1911.

Fig. 1.

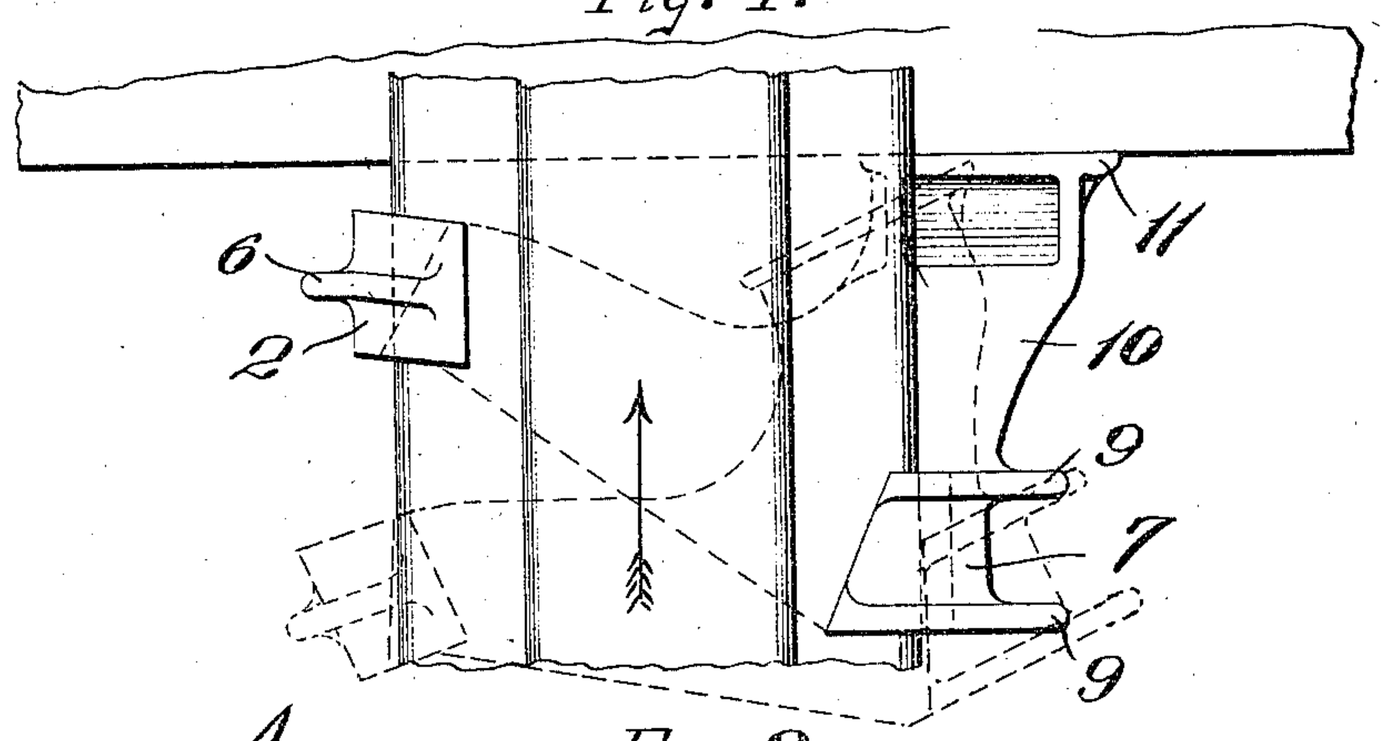


Fig. 2.

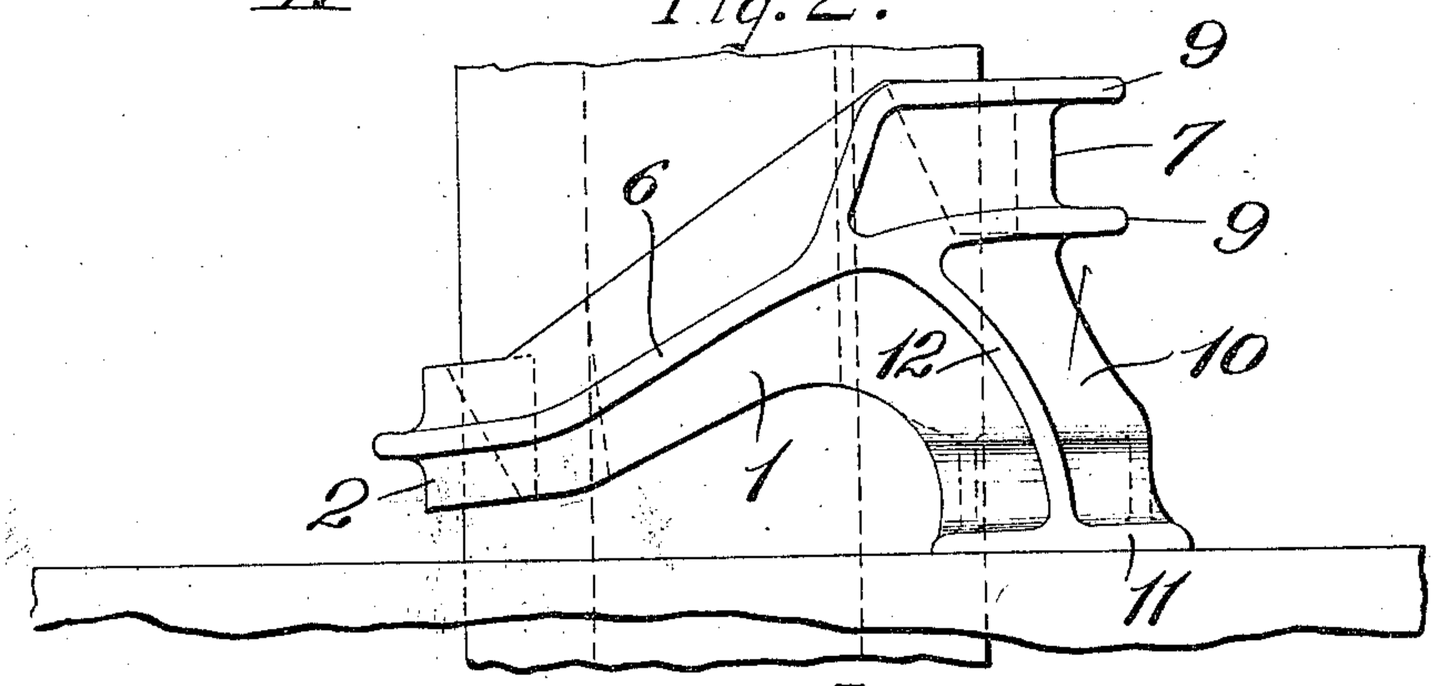
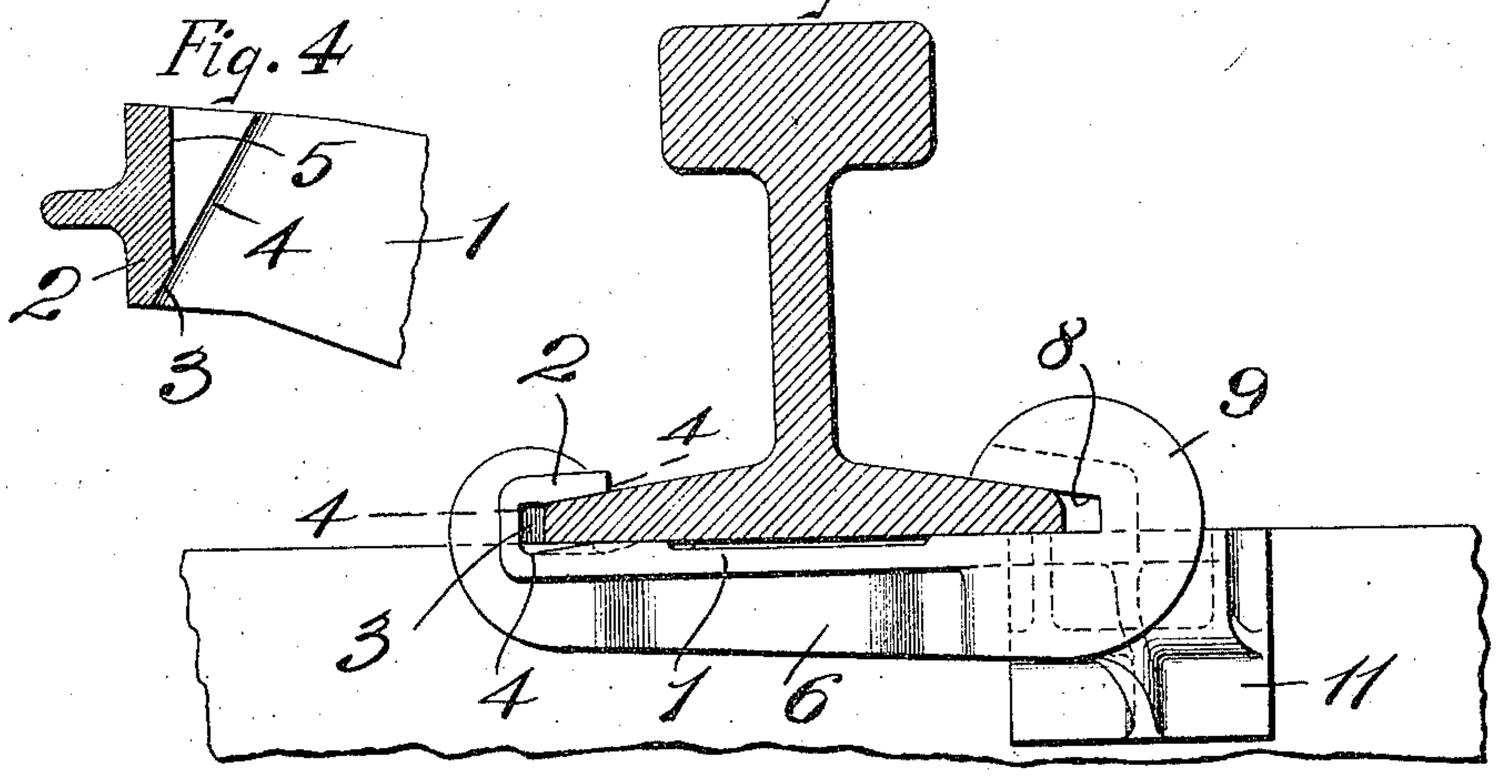


Fig. 3

Fig. 4



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RAILWAY-RAIL ANCHOR.

996,904. Specification of Letters Patent. **Patented July 4, 1911.**

Application filed March 25, 1908. Serial No. 423,181.

To all whom it may concern:

Be it known that I, BENJAMIN B. BETTS, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Railway-Rail Anchors, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a railway rail anchor or stay, adapted to be applied to the base of a railway rail to prevent the same from creeping longitudinally.

The objects of my invention are to construct an anchor or stay in one piece, which automatically grips the rail base without the use of bolts or analogous fastening devices, to simplify and cheapen the construction of devices of the class to which my invention pertains, and to provide an anchor or stay which may be easily and quickly placed in position upon or removed from the rail base.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of a short section of rail my rail, showing my improved anchor in position thereon and bearing against a cross tie; Fig. 2 is a view looking at the under side of one of the anchors in position on a rail; Fig. 3 is a cross section of a railway rail and showing the anchor applied to said rail and in elevation; and Fig. 4 is a horizontal section taken approximately on the line 4—4 of Fig. 3.

My improved anchor or stay is constructed in a single piece, and comprises a main body 1, which when the anchor is in use occupies a diagonal position beneath the rail base, and formed integral with one end of this body portion 1 is a hook 2, which is so arranged as to engage over one edge of the base flange of the rail, and one end of the inner face of this hook is cut away, as designated by 3, and the top surface of the body 1 adjacent this cut away end is notched or recessed, as designated by 4, which construction is provided in order that the anchor may be readily positioned on a rail. The inner face 5 of the hook 2 is adapted to bear directly upon the outer edge of one side of the base flange of the rail when the anchor is in use, and the under side of said hook 2 is slightly inclined to conform with the inclination of the top surface of the base flange.

Formed integral with the under side of the body 1 is a centrally disposed strengthening rib 6, which extends around onto the top of the hook 2.

Formed integral with the end of the body 1 opposite the hook 2 is a hook 7, which is adapted to engage the edge of the base flange opposite from the edge engaged by the hook 2, and the under surface 8 of this hook 7 is inclined to correspond with the inclination of the top surface of the base flange of the rail.

Formed integral with the sides of the hook 7 are strengthening ribs or flanges 9, which pass entirely around said hook and join with the rib or flange 6 at the approximate center of the body 1.

Formed integral with the end of the body 1 adjacent the hook 7 is an extension plate 10, on the end of which is formed integral a vertically disposed plate 11, and formed integral with the plates 10 and 11 is a strengthening rib 12, which joins with the ribs 6 and 9. The plate 11 is designed to bear against one of the side faces of a cross tie or like fixed object, and the top edge of said plate is in horizontal alinement with the top surface of the body 1 of the anchor.

The anchor or stay so constructed is applied for use by first engaging the hook 2 over one of the edges of the base flange of the track rail, then swinging said anchor in a horizontal plane until the edge of the base flange drops into the notch or recess 4 and cut away corner 3, which position is shown by dotted lines A—A in Fig. 1, and when so positioned the opposite end of the anchor carrying the hook 7 is brought upward until the end of said hook 7 passes the corresponding edge of the base flange of the rail, after which the end of the anchor on which the hook 2 is formed is shifted in a horizontal plane to bring the upper portion of said hook 7 over the corresponding edge of the base flange of the rail, and the entire anchor or stay is now moved longitudinally upon the rail until the plate 11 bears against the side of the tie or other fixed object. The hook 2 is now struck with a hammer or like tool, to

drive the same toward the tie, and as a result of this blow the hook 7 is drawn into close engagement with the corresponding edge of the base flange of the rail, and as a result said corresponding edge of the base flange acts as a wedge entering the hook, and the friction resulting from said wedging action very tightly grips and clamps the anchor upon the rail, which gripping action is further increased by the tendency of the rail to creep in the direction indicated by the arrow in Fig. 1, and thus the anchor is made self-gripping and self-tightening without the use of bolts, clamps, or like auxiliary devices.

The anchor is constructed with sufficient space between the hooks 2 and 7 to accommodate the movement of the hook 7 toward the base flange, and the under side of the hook 7 is inclined to correspond with the inclination of the top surface of the base flange, in order that the contacting surfaces, when brought into close contact with one another, will create the friction necessary to cause the gripping action.

A rail anchor or stay of my improved construction is simple and inexpensive, owing to its being constructed in one piece, and said anchor is very easily placed in position on a rail or moved therefrom, and is very efficient in use.

I claim:—

1. A rail anchor formed of a single piece comprising a main body adapted to extend beneath the base of the rail and provided at its opposite ends with upturned jaws to engage the base flanges of the rail and provided at one end with an arm or abutment to engage a tie, a portion of the inner face of the outer wall of one of said jaws being cut away opposite the edge of the rail flange to permit the easy insertion of the anchor upon the rail, said abutment being located below the upper face of the main body portion to permit it to be swung beneath the rail as the anchor is set in position thereon.

2. A rail anchor formed of a single piece and comprising a body portion 1 provided at one end with a hook or jaw 2 said hook or jaw to grip the top and bottom surfaces of the rail flange and hold the edge of the rail flange away from the jaw, the cavity of said hook or jaw being formed with a portion of the inner face of the outer wall cut away, a hook or jaw 7 at the opposite end of said body provided with a long and shallow cavity to receive the opposite base flange of the rail the upper and lower faces of said cavity being formed to grip the flange and the cavity being of such a length that the edge of said flange will not contact with the inner face of the outer wall of said hook or jaw 7 and an arm or extension 10 to engage the tie, said hooks or jaws 2 and 7 being separated at such distance apart, and said jaw 7 having its inner edge so inclined that the anchor may be readily slipped into engagement with the base flanges of the rail.

3. A self gripping anchor for railway rails, constructed of a single piece of metal, comprising a main body portion, one end of which is provided with an integral plate adapted to bear against the tie when the anchor is in use and to receive the thrust, a pair of oppositely disposed hooks formed integral with the said main body portion, the hook adjacent said plate having an inclined under gripping face, the inclination thereof corresponding to the inclined top surface of the base flange of the railway rail on which the anchor is adapted to be positioned, a clearance space between the inside of said hook and the edge of the base flange of the rail on which said anchor is adapted to be positioned and said hook engaging said rail base only on the inclined top surface thereof and the inner edge of which hook is oblique to the axis of the rail whereby the thrust imposed on said tie-bearing plate is obliquely applied to the top surface of the base flange, the opposite hook being formed integral with the main body and being approximately centrally disposed with relation to the first mentioned hook and the tie-bearing plate, said hook being provided on its under side with an inclined under face adapted to snugly fit the top face of the base flange of the rail on which said anchor may be positioned, the end wall of said hook having a gripping surface which is adapted to engage the edge of the base flange of the rail for receiving and distributing the thrust horizontally through the main body portion of the anchor.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

BENJAMIN B. BETTS.

Witnesses:
M. P. SMITH.
E. L. WALLACE.