O. H. McCONOUGHEY.

RAILWAY RAIL AND TIE FASTENER, BED PLATE, AND ANTICREEPING DEVICE.

APPLICATION FILED MAR. 26, 1921.

1,398,385. Patented Nov. 29, 1921.

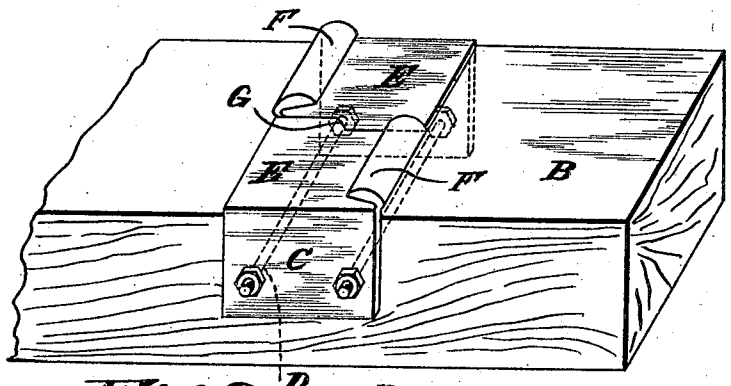


Fig. 2.

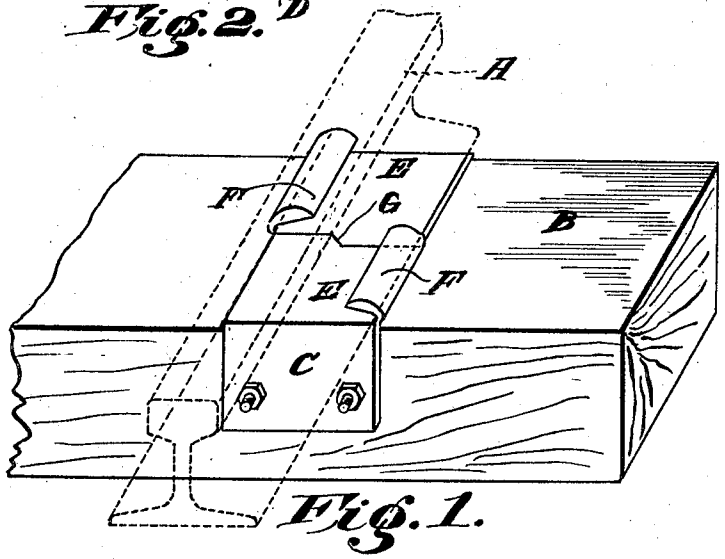
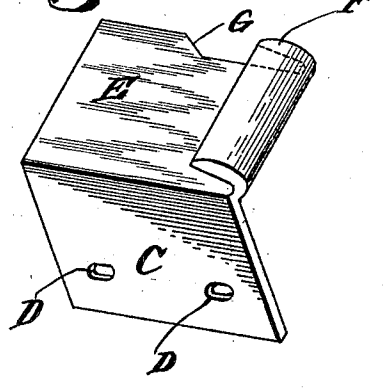


Fig. 1.

Fig. 3.



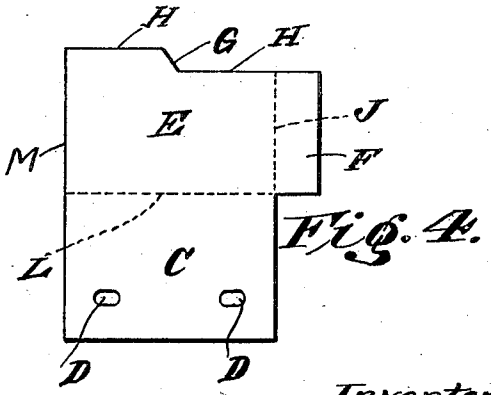


Fig. 4.

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UNITED STATES PATENT OFFICE.

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RAILWAY RAIL AND TIE FASTENER, BED-PLATE, AND ANTICREEPING DEVICE.

1,398,385. Specification of Letters Patent. Patented Nov. 29, 1921.

Application filed March 26, 1921. Serial No. 455,952.

To all whom it may concern:

Be it known that I, OSCAR H. McCONOUGHEY, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Railway Rail and Tie Fasteners, Bed-Plates, and Anticreeping Devices; 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 applies and appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a view of a railway rail and a tie secured or fastened together by my invention; Fig. 2 shows the application of my invention to a tie and Fig. 3 is a view of my invention showing its several members; Fig. 4 is the metal plate unbent.

The object of my invention is primarily to provide a simple, economical and effective means of securing a railway rail to a tie, without the use of vertical spikes, which I accomplish by means of an integral, metal plate or member, provided with slots or holes by means of which it may be fastened to the vertical side of a tie by bolts, screws, spikes or similar means, and having an upward and inward projecting member which grasps one side of the rail flange, and when used in pairs, preferably on opposite sides of a tie, securely fastens the rail to the tie, avoiding the use of spikes driven into the top of the tie, as at present, which break and rend the surface and structure of the tie, permitting moisture to enter with consequent swelling shrinking and loosening of the spike, followed by early decay, requiring frequent renewal of the tie. With the present method of spikes driven downward into the tie, the thrust of a heavy train, especially on curves, the rail itself is made a lever with a constant tendency, under such stress, to pry the spike up and out, permitting and causing spreading of rails and innumerable accidents.

At the same time, by bending the metal plate at right angles, making my device L shaped in cross section, I accomplish a secondary purpose, forming a bed plate for the rail, transversely thereof.

The vertical member is fastened to the side of the tie, as already described, and the other member of this angle iron lies on top of the tie and is of sufficient length to act as a bed-plate to the rail, transversely to the line of the rail, having at one end the upward and inwardly bent flange to grasp the flange of the rail on that side. The device may be made to extend the width of the tie, in which case it is placed on alternate ties oppositely disposed, or it may have the horizontal or bed plate portion extending transversely so as to cover only one-half of the tie, and be used in pairs, oppositely disposed on the same tie, forming a complete bed plate and securely fastening both rail flanges to the tie. In the latter form a slight modification of the meeting edge of the horizontal bed-plate member will permit it to meet and co-act with its mate so as to force the flange grasping members of each device into close frictional contact with their respective rail flanges, so as to prevent the rail from creeping.

This is accomplished by having the inner or meeting edge of each bed-plate portion so shaped as to meet and co-act with a similarly shaped portion of the duplicate device, applied in pairs, when being forced into position on opposite sides of a tie. This result is attained by having the inner edge of the bed-plate portion provided with one or more projections with the vertical edge diagonally inclined away from the flange grasping end and so placed as to meet and co-act with a similar projection of the duplicate device as they are being forced into final position on opposite sides of the tie, each forcing the other endwise in opposite directions as they are being drawn together sidewise, thus forcing the rail flange grasping member of each into close frictional contact with the top and bottom of the rail flange, and said member being in length practically one half the width of the tie, supplies sufficient frictional contact to tend to prevent creeping of the rail. When the devices are applied thus in pairs to each tie they will lessen if not entirely prevent the creeping of the rail, care being taken that the edge of the rail flange shall not come in contact with the device before such frictional contact on top of the rail flange is attained.

Referring to the drawings, A is a railway rail; B is a tie; C is the vertical mem-

ber of my device to be fastened to the side of a tie by means of holes or slots D, D, said holes or slots being slightly oblong horizontally to permit adjustment of the vertical members as the device is forced slightly endwise as the co-acting members on the inner edges of the bed plates meet, each drawing the rail grasping member of the other into close frictional contact as explained. Said co-acting members are marked G, G; the bed plate E and the flange grasping member F; G on the edge of E sloping diagonally away from F.

Fig. 4 is a metal plate of requisite size and dimensions so that E, between L and H will extend practically one-half across the tie and J to M will be covered by the rail base and E will be one-half of a bed plate for the rail, transversely therewith, the plate being bent downward at right angles at the dotted line L for the vertical member C and the portion F bent upward at J and inwardly until it shall closely fit the top of the rail flange.

To facilitate application and removal of the device I recommend that bolts be put through the tie, from side to side, slightly diagonally upward, with the head some three inches from the top of the tie and the nut end near the top of the tie and the hole D, on each side of the tie receiving the nut end, and both nuts, being out from under the edge of the rail base and above the tamped road bed, can be quickly and easily tightened as desired. From the foregoing it will be seen that with my invention applied to a railway rail and tie, one device on each side of the tie and each device having a rail flange grasping member grasping opposite flanges of the rail base, the fastening of the vertical members to the sides of the tie securely fastens the rail thereto and that the horizontal, integral bed plate, covering one-half of the top of the tie, transversely to the line of the rail, where crossed by the rail, forms, when used in pairs, a complete, transverse bed plate for the rail.

I claim:

1. A combination rail and tie fastener and bed plate for railways, consisting of a pair of plates, each consisting of a single piece of metal L shaped in cross section, having one inner face adapted to be fastened to the side of a tie and the other inner face adapted to cover the top of the tie at the intersection of the rail and transversely therewith, forming one-half of a bed plate therefor and having an upwardly and inwardly bent member at one end to engage and grasp one rail base flange, said plates applied in pairs on opposite sides of a tie, substantially as described.

2. A combination railway rail and tie fastener and bed plate and anti-creeping device, consisting of a single piece of metal, L shaped in cross-section, one part of which is adapted to be fastened to the vertical side of a tie, through horizontally oblong holes or slots, and the other part, at right angles thereto, forming one-half of a bed plate for the rail, transversely therewith, having one end bent upwardly and inwardly forming a flange to engage the top of the rail flange, and having on the inner or meeting edge of the bed plate part a projection, with the vertical edge diagonally disposed slanting away from the rail grasping member, or bent end, and so placed as to meet and co-act with a similar projection on a duplicate device when in position on the opposite side of the tie and grasping the opposite rail flange, substantially as described.

3. A combined bed plate, rail and tie fastener and anti-creeping device, consisting of an integral metal device, applied in pairs, each forming approximately one-half of a bed plate, having meeting edges centrally under and transverse to the rail, each having a member on the meeting edge to meet first and co-act with a similar member of a duplicate device disposed on the opposite side of the rail and the tie, whereby each is drawn endwise when forced together sidewise, thereby bringing the rail grasping member on each into close frictional contact with its respective rail base, and provided with a downward vertical member engaging the side of the tie and having openings for bolts for fastening the device to the side of the tie and for drawing the devices together to cause the co-acting movement, substantially as and for the purposes specified.

4. The combination of two coacting, duplicate, integral bed plates for the railway rail, transverse to the line of the rail, each forming one-half of the transverse bed plate, and each having one end bent upwardly and inwardly to fit and grasp one side of the rail flange, and each bent downwardly at right angles on one side to fit the vertical side of the tie, having horizontally oblong slots or holes, suitably placed to fasten the device to the tie by bolts passing through the tie and through the vertical members of the device when applied in pairs on opposite sides of the tie, grasping the opposite sides of the rail flange, each having the diagonal projecting member on its inner or meeting edge, slanting away from the rail flange grasping member, to meet and co-act as the devices are drawn together by bolts fastening the devices to the tie, so that each forces the other into close frictional contact with the rail flange grasped by it substantially as and for the purposes specified.

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

OSCAR H. McCONOUGHEY.

Witnesses:

W. S. S. Bell,

Paul Secrist.