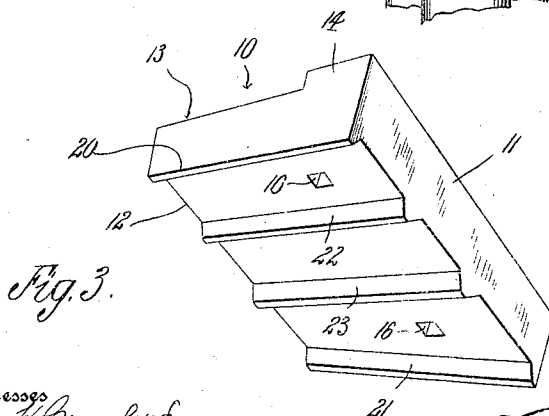
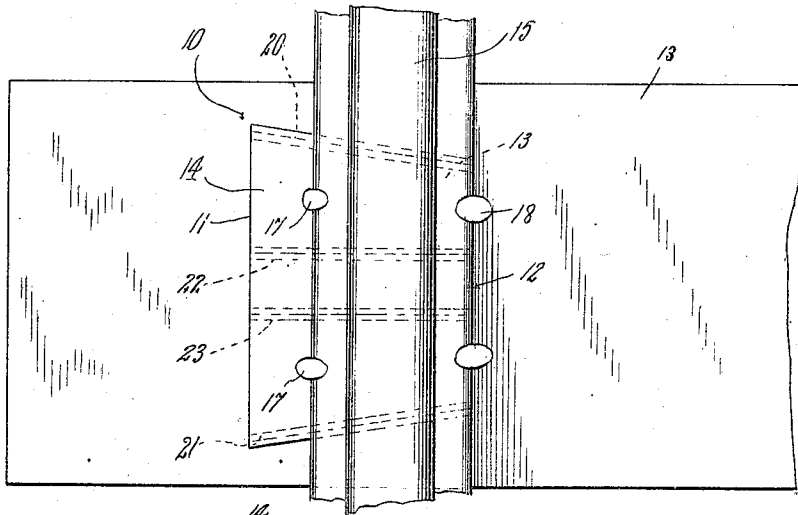
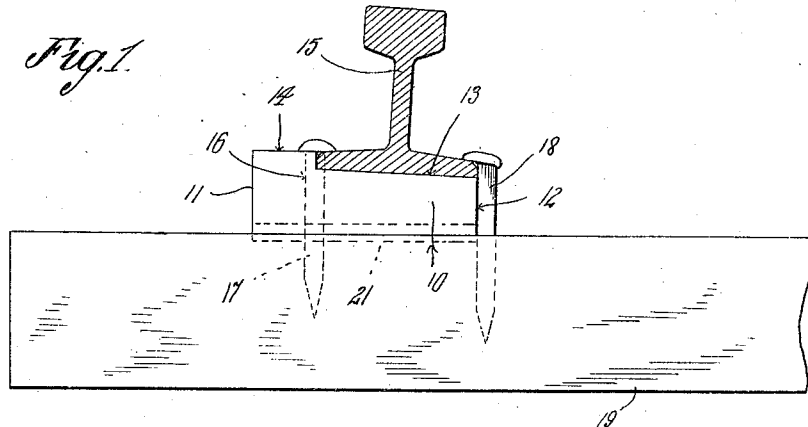


R. A. WHATLEY.
RAILWAY RAIL PLATE.
APPLICATION FILED JULY 2, 1909.

972,044.

Patented Oct. 4, 1910.



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UNITED STATES PATENT OFFICE.

RANSOM A. WHATLEY, OF GREENVILLE, SOUTH CAROLINA.

RAILWAY-RAIL PLATE.

972,044.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RANSOM A. WHATLEY, a citizen of the United States, residing at Greenville, in the county of Greenville, State of South Carolina, have invented certain new and useful Improvements in Railway-Rail Plates; 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 appertains to make and use the same.

This invention relates to railway rail tie plates, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

In constructing railway tracks the outer rail at curves is located slightly higher than the inner rail to resist the tendency of rapidly moving trains to be thrown from the track by centrifugal force, and heretofore this difference in height has been accomplished either by elevating the outer ends of the ties at curves, or by placing beneath the outer rails tie plates which elevate the outer rail bodily to the required extent.

The principal object of the present invention is to provide a simply constructed tie plate which not only supports the outer rail at the requisite height, but also supports the rail at a slight inward incline, and with means whereby the tendency of the plate to move outwardly under the severe strains to which it is subjected by the impact of rapidly moving trains is effectually resisted, and without adding to the expense of the construction or increasing its weight.

With these and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is an edge view of the improved plate arranged upon a tie and with a rail mounted upon the plate, the tie being in side elevation and the rail in transverse section. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a perspective view of the improved plate from beneath.

The improved plate is represented as a whole at 10 and is wider at one end than the other, the wider end being designated by the character 11 and the narrower end by the character 12. The upper surface 13 of the plate is slightly inclined, or reduced in

thickness toward the thinner end 12, and with an upwardly directed stop portion 14 extending transversely of the plate at its thicker end. The distance between the inner edge of the projection 14 and the thinner end of the plate corresponds to the width of the tie flange of the rail, the latter being represented at 15, as shown in Figs. 1 and 2.

Formed through the plate 12 are spike apertures 16, the apertures being preferably partly within the projection 14 and partly within the body of the plate, and the rail 15 is formed with the recesses corresponding to the apertures, so that means are provided for the reception of holding spikes 17, the stock of the spikes thus extending partly into the rail and partly into the projection 14 and likewise partly into the body of the plate 10. Additional securing spikes 18 are also driven into the tie, at the thinner end of the plate 10 and bear by their upper projecting ends over the tie flange of the rail. Formed upon the lower surfaces of the plate 10 are a plurality of holding ribs, and the manner in which these ribs are arranged is a material feature of the improved device.

Any required number of the ribs may be employed, but for the purpose of illustration four of the ribs are shown, but it will be understood that a greater or lesser number may be employed if preferred. The marginal ribs 20—21 converge from the wider and thicker end of the plate toward the narrower and thinner end, so that the outer ribs bear upon the tie obliquely to the longitudinal plane thereof, and thus more effectually resist the tendency of the plate to be moved outwardly under the strains of the rolling stock. The intermediate ribs 22—23 extend in parallel relations to each other and likewise in parallel relations to the longitudinal plane of the ties. The various ribs are relatively narrow at their engaging terminals, so that they are embedded into the tie under the pressure of the rolling stock, and thus form an effectual grip between the tie and the plate.

By the peculiar and novel form of the plate and the peculiar and novel arrangement of the ribs, the tendency of the plate to move either longitudinally of the tie or laterally thereof is effectually resisted and prevented. Thus the strong pressure which is imparted against the rail to move it outwardly on curves is effectually resisted by

the inclined outer ribs, while the tendency of the rail to move laterally, or "creep" upon the tie longitudinally of the rails is also effectually resisted by all of the ribs.

5 The arrangement of the ribs in the manner shown is therefore an important and essential feature of the improved device, as will be understood.

It will be observed upon reference to Fig. 10 1 of the drawings that the width of the inclined upper surface 13 of the plate on which the base of the rail rests is co-extensive with that of the rail base so that the inner edges of said plate and rail base are flush 15 and it will also be observed that the spikes 18 driven into the tie have their shank portions bearing against the flush inner sides of said plate and rail base and their heads only in engagement with the upper side of 20 the rail base. In the event that the rails should spread, the plate will move from the spikes 18 and hence the latter will serve as a gage to indicate the extent of the movement of the plate by the spreading of the 25 rails and this will be very noticeable to the trackman, and greatly facilitate the labor of keeping the track in repair and in a safe condition. Hence the spikes 18 not only serve as securing means for the rail and the 30 plate but also serve as a gage device for indicating the displacement of the plate incident to spreading of the rails.

The plates may be of any required size or of any required variation in thickness, the 35 thickness being increased when used upon

the short curves, as the outer rails must be elevated to a greater extent than upon long curves, as will be understood.

What is claimed is:—

In combination with a railway tie, a plate 40 thereon presenting a laterally inclined upper surface and a longitudinal shoulder at the outer side of said inclined upper surface, a rail having its base bearing on said inclined upper surface, the width of the latter 45 corresponding with that of the rail base so that the inner sides of said plate and rail base are flush, said plate and the outer side of said rail base having vertical openings 50 which are also partially formed in the said shoulder, securing spikes driven through said openings in said plate and outer rail base and into said tie, the heads of said spikes bearing partly on said shoulder and partly on said outer rail base, and spikes 55 driven into the tie, bearing against the inner sides of said plate and rail base and the heads thereof bearing on the inner side of the rail base, the last-mentioned spikes serving not only as securing means for the plate 60 and rail but also serving as a gage to indicate the extent of movement of the plate in the event of spreading of the rails.

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

RANSOM A. WHATLEY.

Witnesses:

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