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COMBINED RAILROAD CROSSTIE PLATE AND RAIL BRACE

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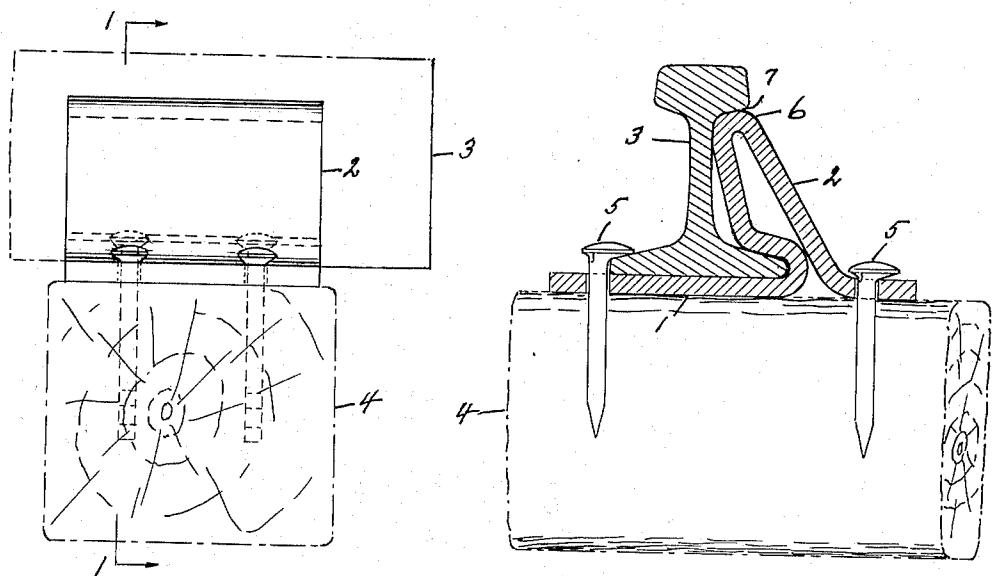
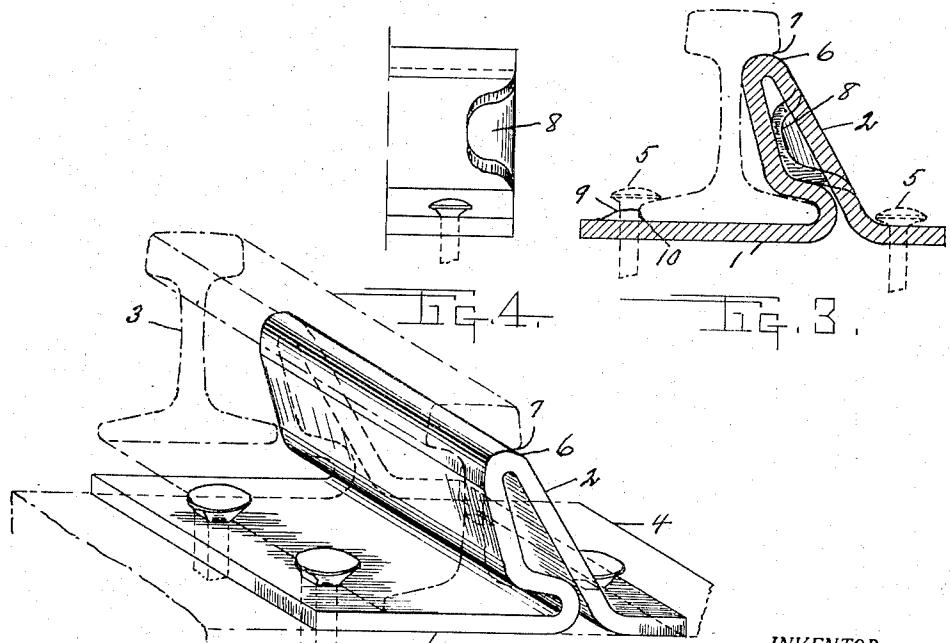


FIG. 2.

FIG. 1.



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## COMBINED RAILROAD CROSSTIE PLATE AND RAIL BRACE

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2 Claims. (Cl. 238—293)

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This invention relates to a combined railroad crosstie plate and rail brace. It has for its main objects to provide such a device that will be highly efficient for the purpose intended, comparatively cheap to manufacture, and simple in structure.

A further object is to provide highly improved means to easily brace the rails of a railroad track, especially the outer rails on curves. It is a physical fact that due to centrifugal force, while a train is running at excessive speed around a curve, more of the weight of the train transfers to the outer rail, and the tendency is to turn the rail over on its side. This is especially true should the brakes be applied while the train is rounding the curve at high speed resulting in a certain amount of drag on the rail due to the friction of the wheels where they are in contact with the rail thereby increasing the tendency of the train to turn the outer rail off of its base and over on its side. Such being so it is highly important for safety to brace the outer rail to prevent it from turning over, and often causing serious wrecks.

To accomplish such safety means in a simpler manner than heretofore attempted the present invention as a combined crosstie plate and rail brace is adapted to replace the conventional tie plate by simply removing it and then inserting in its place the present combined plate and brace, and use the same spike means and hold it in place for use. While the present invention may be used generally on the outside or inside of railroad rails, it is especially intended for use on the outside of the outer rail on a curved track.

Other objects and advantages will appear from the drawing and description.

By referring generally to the drawing, part of this application, it will be observed that Fig. 1 is a sectional view on line 1—1 of Fig. 2 showing part of a railroad rail with the combined plate and brace in place adjacent the side of the rail; Fig. 2 is an elevational view showing part of a rail, the end of a tie, two regular type spikes, and the combined plate and brace; Fig. 3 is an end view of the modified form of the plate and brace with the bent in end portions, and the ridge portion integral with the plate on the opposite end of the plate from the brace

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portion; Fig. 4 is a detail view showing one bent-in end of the modified form shown in Fig. 3; and Fig. 5 is an isometric view, part full, part in broken lines, and part phantom, showing the combined plate and brace in place for use upon the tie and adjacent the side of the rail.

Similar reference numerals refer to similar parts throughout the several views.

Referring to the drawing in detail it will be seen that the device comprises an integral plate portion 1 and a brace portion 2 adapted for the plate portion to fit under a railroad rail 3 and upon the tie 4 with regular spikes 5 to hold it in place with the upper curved end 6 of the brace portion in contact with the under outer face 7 of the top or ball of the rail.

The modified form of the integral plate and brace is provided with a bent inward portion 8 at each side of the brace, and a ridge portion 9 integral with the plate portion adapted to fit adjacent the base edge 10 of the rail.

As plainly shown the integral plate and brace is adapted to replace the ordinary flat plate (not shown) now in general use on railroads, and while thus replacing the flat tie plate at the same time provide safe and simple bracing means along the outside of the outer rails on curves to thus prevent the outer rails from turning over when subjected to great strain when trains exceed the safety limit of speed on curves, often the case, resulting in awful wrecks.

The combined plate and brace may be made in different sizes and capacities in order to fit the various sizes and weights of railroad rails. Also may be made of any material suitable for the purpose, but I prefer to use various kinds of steel.

While I have shown and described the preferred embodiment of my invention, I do not wish to limit same to the exact and precise details of structure, but reserve the right to make all modifications and changes so long as they remain within the spirit and scope of the invention and the following claims.

Having described my invention I claim:

1. In a combined railroad crosstie plate and rail brace comprising; a piece of elongated flat metal defining a form, a portion of the form adapted as a base for a railroad rail, the middle portion of the piece defining a horizontal U-

shape with the upper prong of the U continuing and extending upward with its major axis at an angle of approximately 85 degrees compared to the plane of the said base portion, said upward extending portion looping over upon itself and extending downward and making contact with the rounded portion of the U-shaped portion and also forming space between the said upward and downward portions, the upper end of said upper prong being adapted to make contact with the underside of a rail head with the lower portion of the prong where it joints the U-shape resting on the flange of the same rail, the end portion of said downward extending portion of forming a curved portion with the extreme end portion beyond the curve being flat with its bottom plane in line with the bottom plane of the rail base portion.

2. In a combined railroad crosstie plate and

5 rail brace of the character described according to claim 1, and being further characterized by each bottom end portion having holes therein of a size to accommodate a railroad spike in each hole.

LOUIS M. WESTERHOUSE.

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