G. PORTER.

RAIL FASTENER.

APPLICATION FILED NOV. 11, 1909.

954,465. Patented Apr. 12, 1910.

Fig. 1.

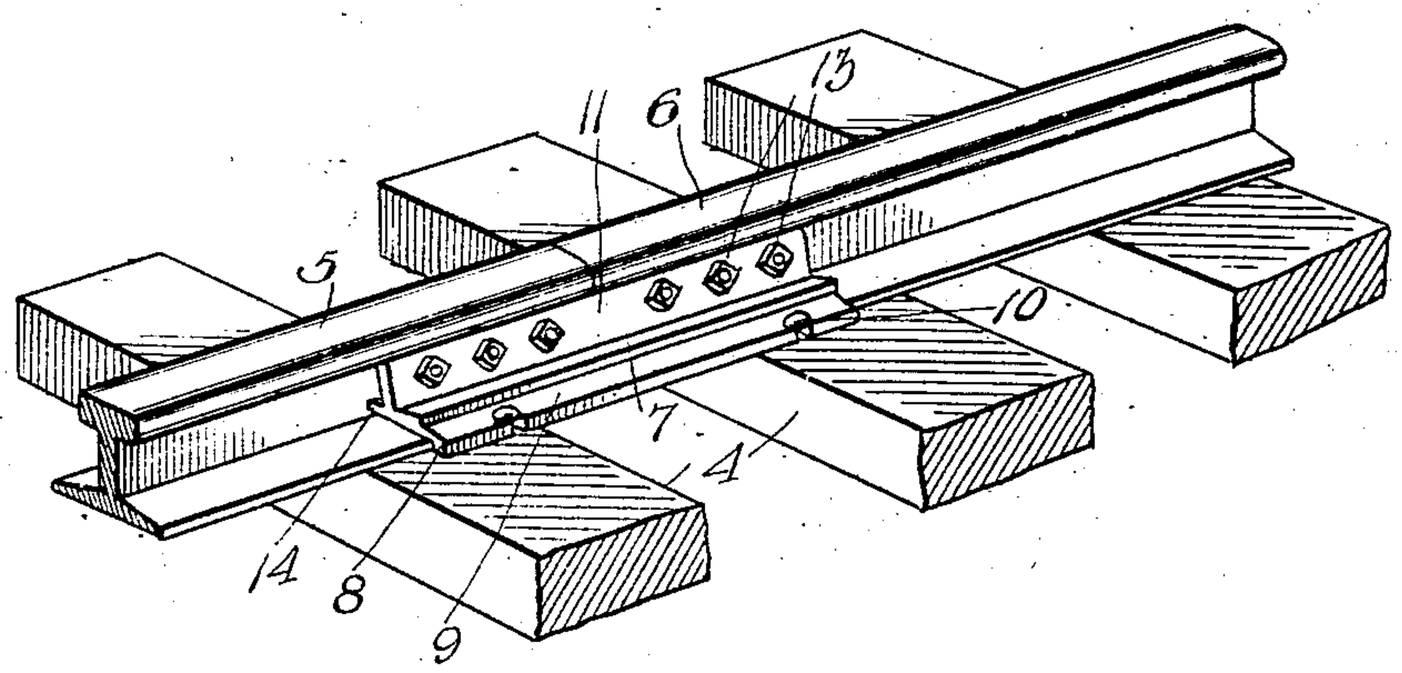
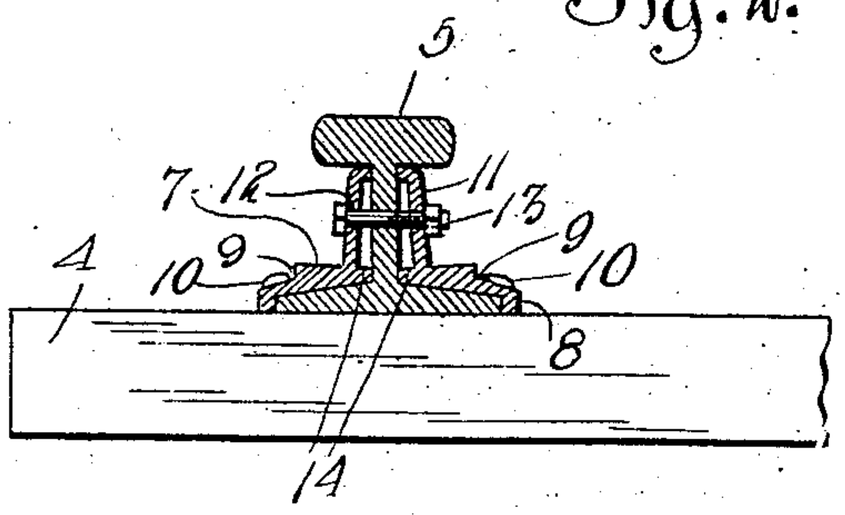


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE PORTER, OF NEW MARKET, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ALFRED P. BAMBERGER, OF NEW CUMBERLAND, PENNSYLVANIA.

RAIL-FASTENER.

954,465. Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed November 11, 1909. Serial No. 527,418.

To all whom it may concern:

Be it known that I, GEORGE PORTER, a citizen of the United States of America, and resident of New Market, Fairview township, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Fasteners, of which the following is a specification.

This invention relates to railway tracks and particularly to a rail joint and fish-plate combined which fish plate is designed to retain the rails in position while at the same time bracing said rails on opposite sides in order to prevent spreading thereof.

A still further object of this invention is to produce a rail joint in the form of a fish plate and chair having novel means for attaching the said fish plate to the cross ties through the medium of spikes, the heads of which are prevented from projecting above the general surface of the fish plate. By reason of the arrangement just mentioned, the heads of the securing spikes will not interfere with or contact the flanges of the car wheels.

Furthermore, an object of the invention is to provide means whereby the spikes exert a camming action on the said fish plate in order that the tendency of the said pressure will be to force the fish plates against the rails.

A further object of the invention is to produce a fish plate having proper thickness to insure strength and durability at the points of greatest strain and wear and in reducing the thickness or dimensions of the fish plate at such points where the strain or wear is diminished.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1 illustrates a view in perspective of a fish plate applied to, the rails of a track; and Fig. 2 illustrates a transverse sectional view thereof.

In these drawings 4 denotes the cross tie, and 5 and 6 the abutting rails shown se- [illegible] fish plates. The fish plates are duplicated on each side of the rails and therefore a description of one of them will be understood as applying to both of those illustrated.

The base 7 of each plate has a longitudinally disposed shoulder 8 near the outer edge of the bottom surface which is designed to engage the edge of the base flange of the rail. The upper surface of the base tapers toward the edge as shown at 9, forming a camming surface which is designed to be engaged by the heads of the spikes 10 which spikes are of course anchored to the cross ties.

The function of the beveled surface of the base is two-fold in that it causes the engagement of the head of the spike of a sufficient portion of the base without allowing the head of the spike to project upon the upper surface of the base and the tapered portion also acts as a cam as heretofore indicated which has a tendency to force the plate inwardly against the rail. As shown in the drawings, the base is reduced in thickness toward the inner edge where the said plate contacts the web of the rail and I do not want to be restricted to any particular degree of thickness of the parts of the said base, as the carrying out of my invention will be accomplished by reducing the base and thickness toward the inner edge regardless of the degree.

Each plate has a flange 11, which is inclined toward the head and is of sufficient height to engage the rail at the junction of the head and web. By reason of the relation of parts just indicated, the flange acts as a prop to prevent sidewise movement of the rail in addition to acting as a fish plate for securing the meeting ends of the rail. The flange is provided with a series of apertures 12 designed to receive bolts 13 which bolts pass through coinciding apertures in the two flanges and in the webs of the rails. From an inspection of the drawing, it will be seen that the base extends slightly beyond the flange thus forming a bead 14 which bears against the sides of the webs of the rail at the junction of the webs and base flanges. Such arrangement of parts further insures a rigid structure when the parts are in assembled relation.

While I have stated that I do not desire to be limited with respect to the dimensions of the plate, I nevertheless have found in

practice that with rails now commonly used I may employ fish plates with a base 1 inch in thickness near the outer edge where the taper begins and by reducing the thickness of the base toward the flange, the thickness of the said base at the junction of the flange and base may be ½ inch. These dimensions are simply given as suggestive of the proper proportions and dimensions and in practice they will usually be found satisfactory.

I claim—

1. In a rail fastener, a fish plate having a base tapering toward its inner edge from a thickened portion rising substantially perpendicularly from a portion of the base intermediate of its outer edge and an apertured flange, said flange rising at an incline from the base near its inner edge and adapted to engage a rail at the junction of the web and head.

2. In a rail fastener, a fish plate having a base tapering toward its inner edge from a thickened portion rising substantially perpendicularly from a portion of the base intermediate of its outer edge and an apertured flange, said flange rising at an incline from the base near its inner edge and adapted to engage a rail at the junction of the web and head, a cam formed by the taper near the outer edge, and a rib extending longitudinally of the base on the under surface thereof.

3. In a rail fastener, a fish plate having a base tapering toward its inner edge from an abruptly thickened portion intermediate of the outer edge of the base and an upstanding flange, said flange being perforated and being inclined toward the web of the rail, a camming surface extending outwardly from said abruptly thickened portion, and a rib extending longitudinally of the base, on the under side thereof.

In testimony whereof, I have hereunto affixed my signature in the presence of two witnesses.

GEORGE PORTER.

Witnesses:

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E. M. HELM.