(No Model.)

J. CHURCHWARD.

WEAR PLATE.

No. 492,528. Patented Feb. 28, 1893.

Fig. 1.

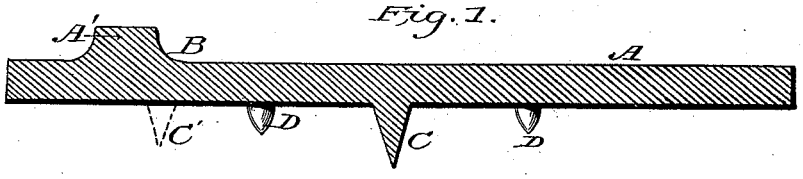


Fig. 2.

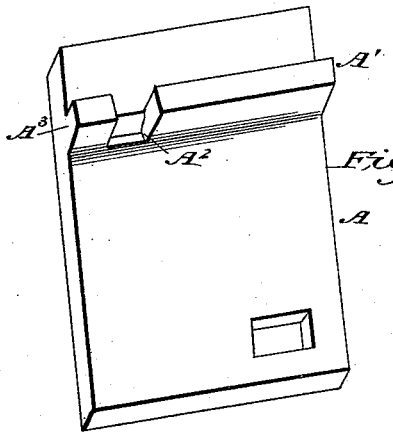


Fig. 3.

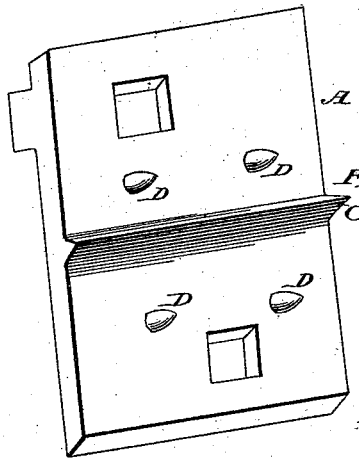
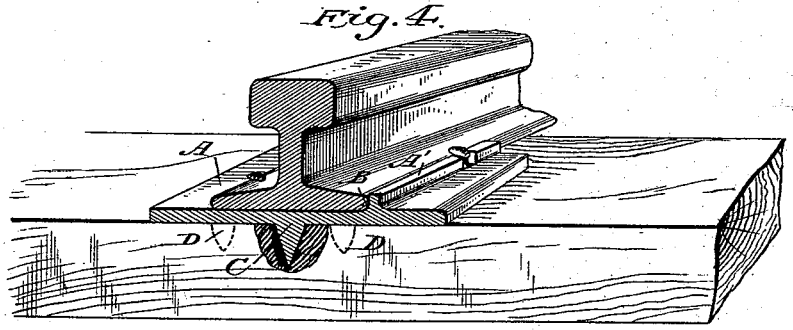


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

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WEAR-PLATE.

SPECIFICATION forming part of Letters Patent No. 492,528, dated February 28, 1893.

Application filed February 16, 1892. Serial No. 421,780. (No model.)

To all whom it may concern:

Be it known that I, JAMES CHURCHWARD, a subject of the Queen of Great Britain, and a resident of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Wear-Plates, of which the following is a specification.

My invention relates to railway appliances, and its object is to provide a wear plate for insertion between the tie and the base of the rail, to prevent injury to the tie by passing loads, which will securely hold the rail and prevent it from buckling, and which will take off all lateral strain on the spikes and also prevent the rail from spreading or shifting laterally.

The invention consists of a wear plate constructed as hereinafter described and claimed, and as illustrated in the drawings forming a part hereof, in which similar letters of reference denote corresponding parts in all the views.

Figure 1 is a longitudinal section of the wear plate. Fig. 2 is a perspective view showing the upper face of the plate. Fig. 3 is a perspective view showing the lower face of the plate; and Fig. 4 is a perspective view of the plate as applied to a rail and tie shown only in part.

The plate A which is of any suitable metal, may be of any desired dimensions and is rectangular in contour. Upon its upper face near one end is formed integrally therewith a vertical rib A′ extending from one side of the plate nearly but not quite across the plate, terminating at a recess A^2 ranging at a right angle to the rib and longitudinally of the plate, in the base of which recess is formed an opening to receive a railway spike, a similar opening for a like purpose being formed near the other end of the plate and in similar relation to the other side edge of the same.

The recess A^2 may extend entirely across the end of the rib A′, as shown best in Fig. 2, in which event a shorter rib A^3 corresponding in cross section to the rib A′ is formed on the plate beyond the recess and in alignment with the rib A′ and extending to the other side of the plate.

At the point of junction of the base of the inner face of the ribs A′ A^3, and the upper face of the plate A, a metal fillet B is placed, which is preferably forced into position by means of any suitable metal rolling machine, the object of the fillet being to give to the plate and rib a proper face to receive the edge of the base flange of the rail. The introduction of the fillet at the point stated permits the base flange of the rail to have an easy seat and prevents said flange from buckling as would happen were the rounded edge of the rail flange to abut against the right angular junction point of the ribs and plate. The fillet also strengthens the junction of the ribs and plate and prevents fracture at that point.

Upon the lower face of the plate A and about centrally thereof is formed a depending V-shaped flange C, extending transversely from side to side of the plate. This flange when the plate is in position upon the tie extends across the grain of the tie and when embedded in the tie prevents lateral movement of the plate, and if found desirable a similar flange C′ may be formed upon the under face of the plate substantially in vertical alignment with the fillet B, as shown in dotted lines in Fig. 1.

As a further precaution against lateral shifting of the plate A, two or more spurs D, are or may be formed on the lower face of the plate at either side of the flange C arranged as shown best in Fig. 3 or otherwise arranged as may be preferred, which spurs entering the tie reinforce the V-shaped flange or flanges.

In applying the plate to use it is placed transversely of the tie as shown in Fig. 4, the V-shaped flange or flanges and the spurs entering the tie across its grain as shown, and the rail is then positioned thereon and secured by spikes as shown in Fig. 4, and as the impact of passing loads serves to force the flanges and spurs well into the tie, the plate is held by them and the spikes against lateral movement outwardly on the tie as well as against transverse movement thereon and the plate is also held from rattling. Moreover the interposition of the fillet to form a bearing surface for the outer edge of base flange of the rail, gives the rail a snug fit and as before stated precludes buckling of the flange and consequent unsteadiness of the rail.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

A wear plate for railways, formed on its upper face at one end with aligning transverse ribs, one longer than the other, the longer rib extending from one side edge of the plate partially across the width of the plate and the shorter rib extending to the other side edge of the plate a recess intervening said ribs and having a spike aperture in its base, a fillet located at the point of junction of the inner faces of said ribs and the upper face of the plate a transverse V-shaped flange formed on the under face of said plate, and series of spurs depending from said plate at either side of said flange, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of February, 1892.

JAMES CHURCHWARD.

Witnesses:
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