

(No Model.)

J. T. STEWART.  
RAILWAY TIE PLATE.

No. 535,963.

Patented Mar. 19, 1895.

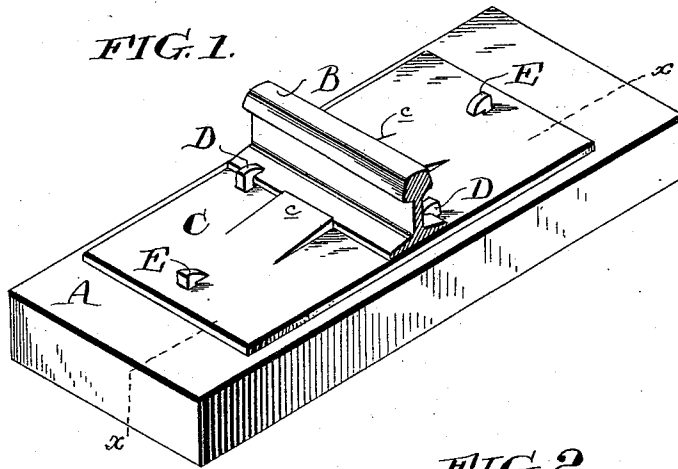


FIG. 2.

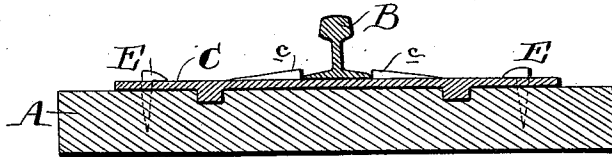


FIG. 4.

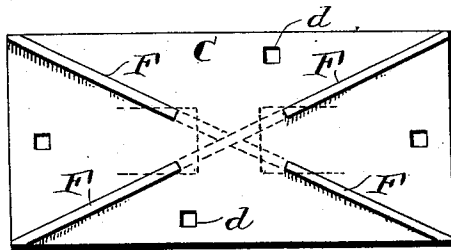
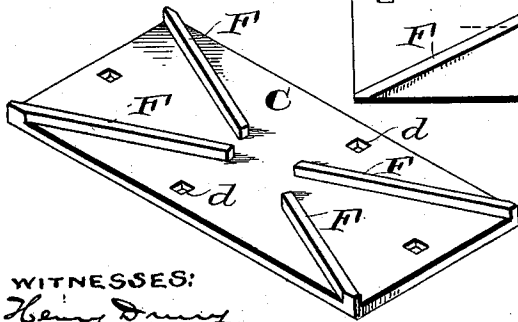


FIG. 3.

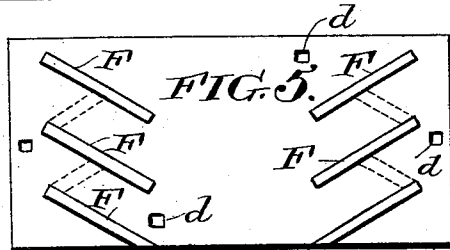


FIG. 5.

WITNESSES:  
*Henry D. ...*  
*Geo. S. ...*

INVENTOR:  
*James T. Stewart*  
By his atty *...*

# UNITED STATES PATENT OFFICE.

JAMES T. STEWART, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
THE SHOULDER TIE PLATE COMPANY, OF NEW JERSEY.

## RAILWAY-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 535,963, dated March 19, 1895.

Application filed July 11, 1892. Serial No. 439,625. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES T. STEWART, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Railway-Tie Plates, of which the following is a specification.

My invention relates to railway tie plates and consists of certain improvements which are fully set forth in the following specification and are shown in the accompanying drawings, which form a part thereof.

More particularly my invention relates to metallic tie plates which are designed to be arranged between the wooden ties and the rail to relieve the wooden ties of the wear due to the direct action of the rail upon them. Such plates may also serve to brace rails and hold them in place and to relieve the strain from the rail spikes. In tie plates of this kind the great strain upon the central or rail bearing portion due to the downward pressure of the rails from the passage of railway trains tends to cause the outer portions which extend beyond the rail to bend or turn upward; and my invention is designed to overcome this defect by strengthening the plate at these parts by means of diagonal ribs which may be formed upon the under surface of the plate and may be driven into the wood of the tie so as to more firmly hold the plate in place and relieve the fastening spikes of strain.

The particular construction of the tie plate in other respects is not material to my invention. In the accompanying drawings, however, for purposes of illustration I have shown a tie plate of the general construction shown in Letters Patent of the United States to Louis Blackstone, No. 413,609, dated October 22, 1889.

In the drawings:—Figure 1 is a perspective view of a portion of a railway tie, rail and tie plate. Fig. 2 is a transverse sectional view of the same on the line  $x-x$  of Fig. 1. Fig. 3 is an inverted plan view of a tie plate embodying my invention. Fig. 4 is a perspective view of the same with the plate inverted; and Fig. 5 is an inverted plan view of a tie plate illustrating a modification of the invention.

A is the wooden tie.

B is the rail.

C is the tie plate which may have upon its

upper surface one or more brace pieces  $c$  adapted to bear against the flange of the rail to receive the side thrust. These brace pieces  $c$  may be arranged upon either or both sides.

D are rail spikes which may be driven into the tie through slightly offset spike holes  $d$  so as to relieve the spikes of side thrust.

E are fastening spikes for securing the plate C to the tie.

F are ribs upon the tie plate extending diagonally across the portion of the plate which extends beyond the part which receives the rail base. These diagonal ribs may be continued entirely across the plate as shown in dotted lines in Fig. 3, but their presence under the part which receives the rail base is not necessary. I prefer to arrange these ribs F as shown in Fig. 4 upon the under side of the plate running from the corners toward the center. A different arrangement is shown in Fig. 5.

The number of diagonal ribs employed is not essential. One or more may be used. The diagonal arrangement of the ribs serves to strengthen the plate throughout and effectively prevents the turning up or bending of the sides. As the ribs extend diagonally it will be seen that they brace the plate both longitudinally and transversely, not only preventing the bending of the sides in a longitudinal direction, but also preventing the turning up of the corners of the plate. The plate is thus preferably braced with a minimum expenditure of metal for the purpose. By employing these ribs it is possible to employ much lighter plates than could otherwise be used so that a great saving of metal is obtained.

When the ribs are located upon the under side of the plate they may be buried in the wood of the tie as is shown in Fig. 2, thus serving also to hold the plate in place and relieve the strain upon the fastening spikes E.

While I prefer the minor details of construction shown I do not mean to limit myself to them as it is apparent that they may be varied without departing from the invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. A railway tie wear plate adapted to receive the rail base provided upon its under

surface with a diagonal strengthening rib extending diagonally beyond the portion which receives the rail base up to the outer edge of the plate.

5 2. A railway tie wear plate adapted to receive the rail base provided upon its under surface on each side with a diagonal strengthening rib extending diagonally beyond the portion which receives the rail base up to the  
10 outer edges of the plate on each side.

3. A railway tie wear plate adapted to receive the rail base having its under surface provided upon each side with ribs extending diagonally across the plate on either side be-  
15 yond the rail spike holes.

4. A railway tie wear plate adapted to receive the rail base having its under surface provided upon each side with a series of oppositely arranged ribs extending diagonally across that portion of the plate on either side 20 beyond the part which receives the rail base and extending beyond the rail spike holes and substantially up to the corners of the plate.

In testimony of which invention I have hereunto set my hand.

JAMES T. STEWART.

Witnesses:

ERNEST HOWARD HUNTER,  
S. T. YERKES.