(No Model.)

W. H. WILSON.

RAILROAD TIE PLATE.

No. 526,601. Patented Sept. 25, 1894.

Fig: 1.

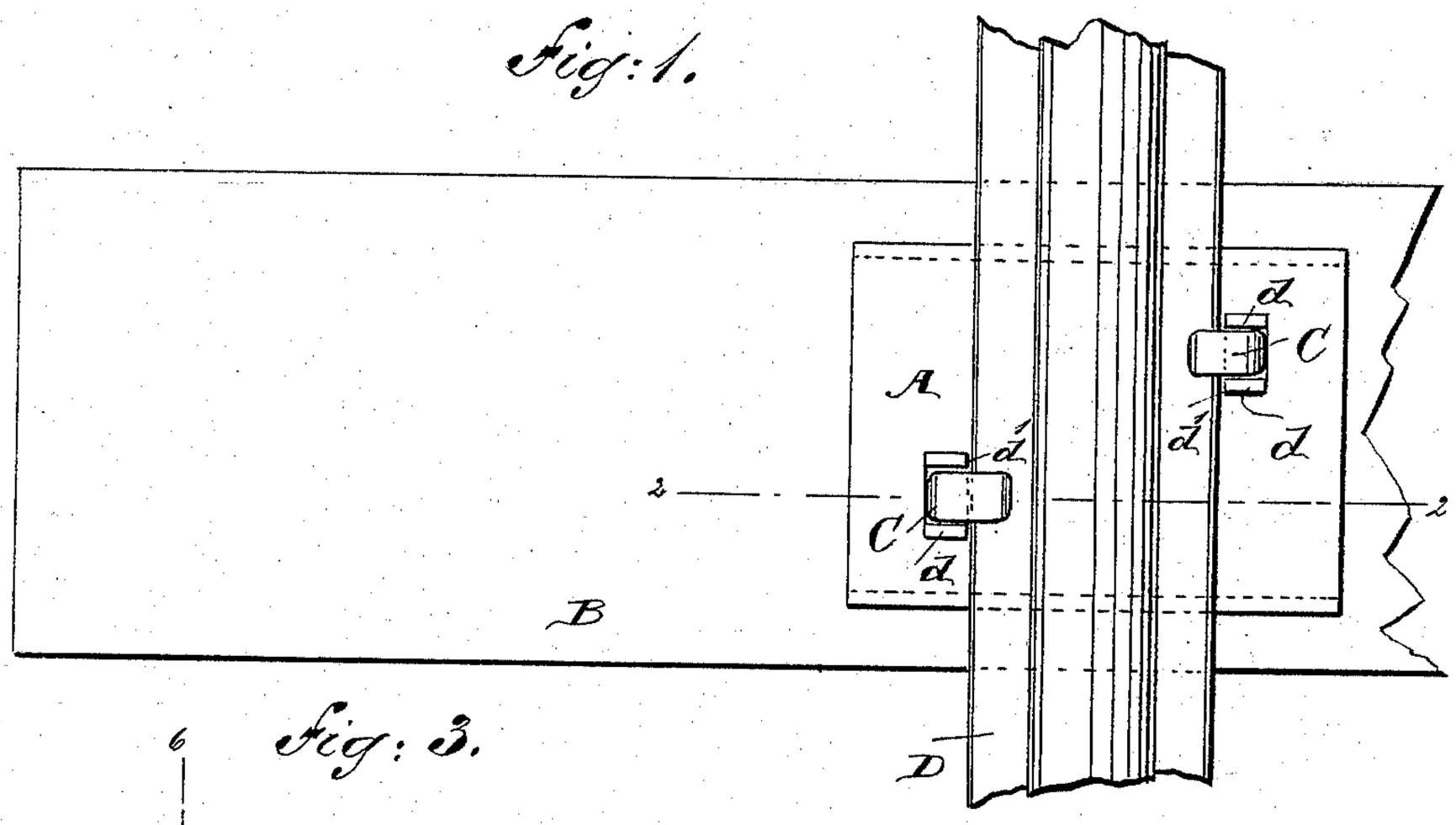


Fig: 3.

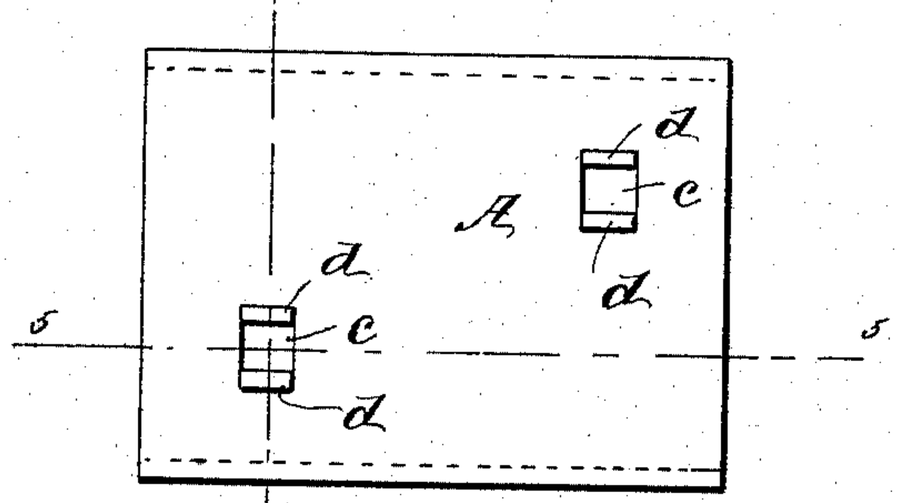


Fig: 2.

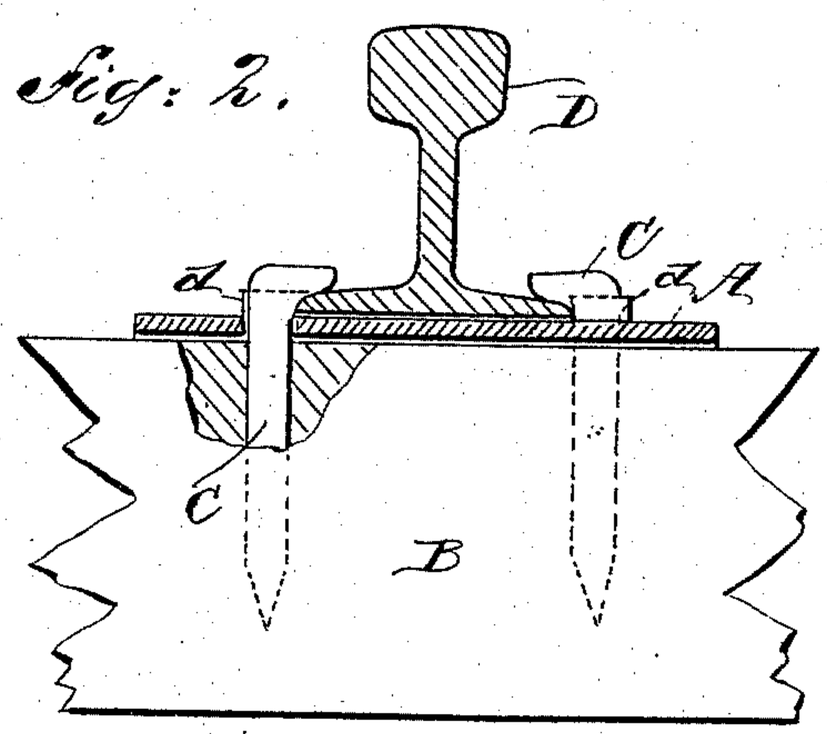


Fig: 4.

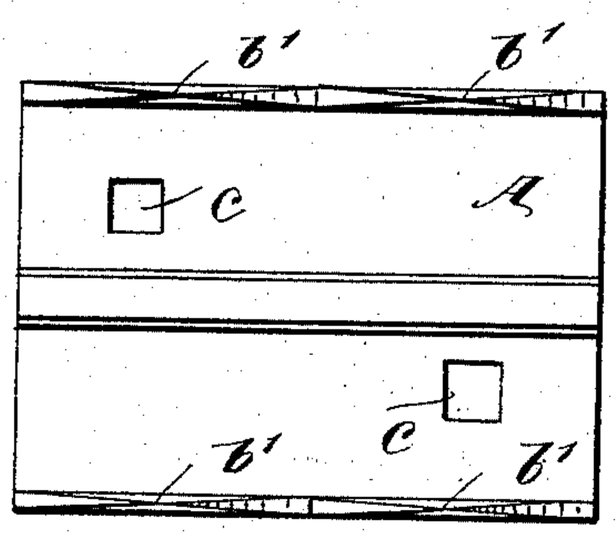


Fig: 5.

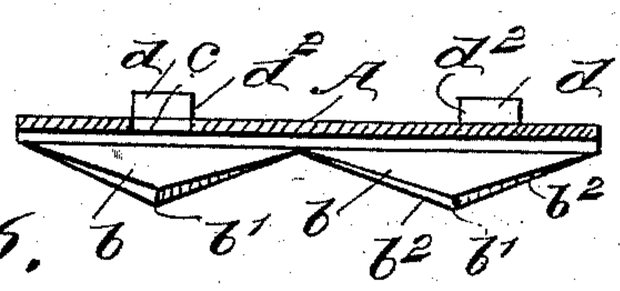
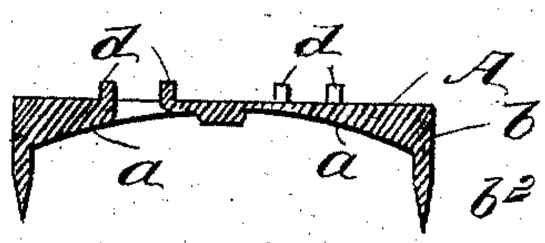


Fig: 6.



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WALTER H. WILSON, OF NEW YORK, N. Y., ASSIGNOR TO RICHARD H. SMITH, OF SAME PLACE.

RAILROAD-TIE PLATE.

SPECIFICATION forming part of Letters Patent No. 526,601, dated September 25, 1894.

Application filed April 26, 1894. Serial No. 509,110. (No model.)

To all whom it may concern:

Be it known that I, WALTER H. WILSON, of New York city, in the county and State of New York, have invented a new and useful Railroad-Tie Plate, of which the following is a full, clear, and exact description.

The invention relates to the plates that are laid on and secured to wooden railroad ties beneath the rails, the office of which plates is to preserve the tie by preventing checking, rotting or disintegration of the tie caused by the pounding of the rails, the entrance of sand and grit beneath the rails and the presence of moisture, and a further office of such ties is to prevent the rail from shearing or grinding the spike heads, the plate serving to take up and distribute the lateral pressure of the rail.

The object of my invention is to provide an improved plate of this character that will have increased efficiency to the ends enumerated, to promote economy in the manufacture of such plates, to provide a plate that may be quickly and securely applied to the tie, and that will so embed itself in the tie as to cause the fibers of the tie to be so crowded beneath the plate as to afford a seat of increased elasticity, and further to provide a plate that will effectively resist any tendency to buckle.

The invention consists in the novel construction hereinafter particularly described and defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a broken plan view showing my improved tie plate applied. Fig. 2 is a section taken on line 2—2 in Fig. 1, a part of the tie being shown in side view and partly broken away. Fig. 3 is a plan view of the tie plate alone. Fig. 4 is an inverted plan view of the plate. Fig. 5 is a section on line 5—5 in Fig. 3; and Fig. 6 is a section on line 6—6 in Fig. 3.

In forming a tie plate, as A, in accordance with my invention, the same is made of the desired dimensions, and its under side is concaved transversely as best seen at *a* in Fig. 6. The effect of this conformation will be to provide a plate of comparatively light weight and which will yet resist all tendency of the plate to buckle, and further the concaved lines tapering toward the center of the plate will crowd the fibers of the tie toward the center and thereby form a more firm but elastic seat.

The plate at the under side, at each longitudinal edge is formed with two or more blades *b*, the side edges of which blades taper from the bases of the blades to a point *b'*, and preferably also the blades are sharpened to an edge as at b^2. The blades thus provided, it will readily be seen, will enter and retain a firm hold in the tie B. The holes *c* for the spikes C, are provided at points in the plate spaced apart sufficient for the spikes to bear by their heads on the flange of the rail D, and in forming the holes *c*, I form integral guard projections *d* at two sides of such holes, so that side edges *d'* of such projections will be presented to the rail flange, the projections being produced by upsetting the metal of the plate to produce the hole, instead of punching out such metal. By this means economy in manufacture is promoted, and the lugs afford efficient abutments at two sides of each spike which will take up the side thrust of the rail and prevent the shearing of the spike heads.

The blades *b*, *b*, it will be seen are two in number at each side. They range longitudinally of the plate so as to range transversely of the rail, and their points of greatest depth and consequently greatest strength come directly beneath the outer edges of the rail flanges, which is the point at which there is the greatest tendency to buckle.

It will be seen that a light and strong construction is thus obtained, that an efficient guard is provided for the spikes, and that the plate may be quickly applied and will form a bed for itself in an improved manner.

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

1. A tie plate forming on its upper surface a seat for the rail, and having its under surface concaved in the longitudinal direction of the rail seat, the plate having cutting edges at the sides of the concave for entering a tie, substantially as described.

2. A tie plate concaved on its under side and

having a series of blades ranging longitudinally at each side edge of such surface, substantially as described.

3. A tie plate having depending blades at its under side, along the side edges of the plate, parallel with such side edges, said blades ranging longitudinally of the plate and thus ranging transversely of a rail thereon, the side edges of the blades tapering from the under surface of the plate to a point beneath the line along which the outer edges of the rail flanges are received, thereby presenting their deepest portions to the buckling force of the rails, while affording points for entering a tie, the plate further being concaved longitudinally from one blade to the other, substantially as described.

4. As a new article of manufacture, a plate having spike holes and having the material of the plate upset, forming parallel projections disposed transversely at two sides of each hole at the upper side of the plate, substantially as described.

5. A tie plate having spike holes, and having at the sides of such holes, integral upset projections disposed transversely of the plate, side edges of the projections being presented toward the center of the plate, for receiving the side thrust of a rail, substantially as described.

WALTER H. WILSON.

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