

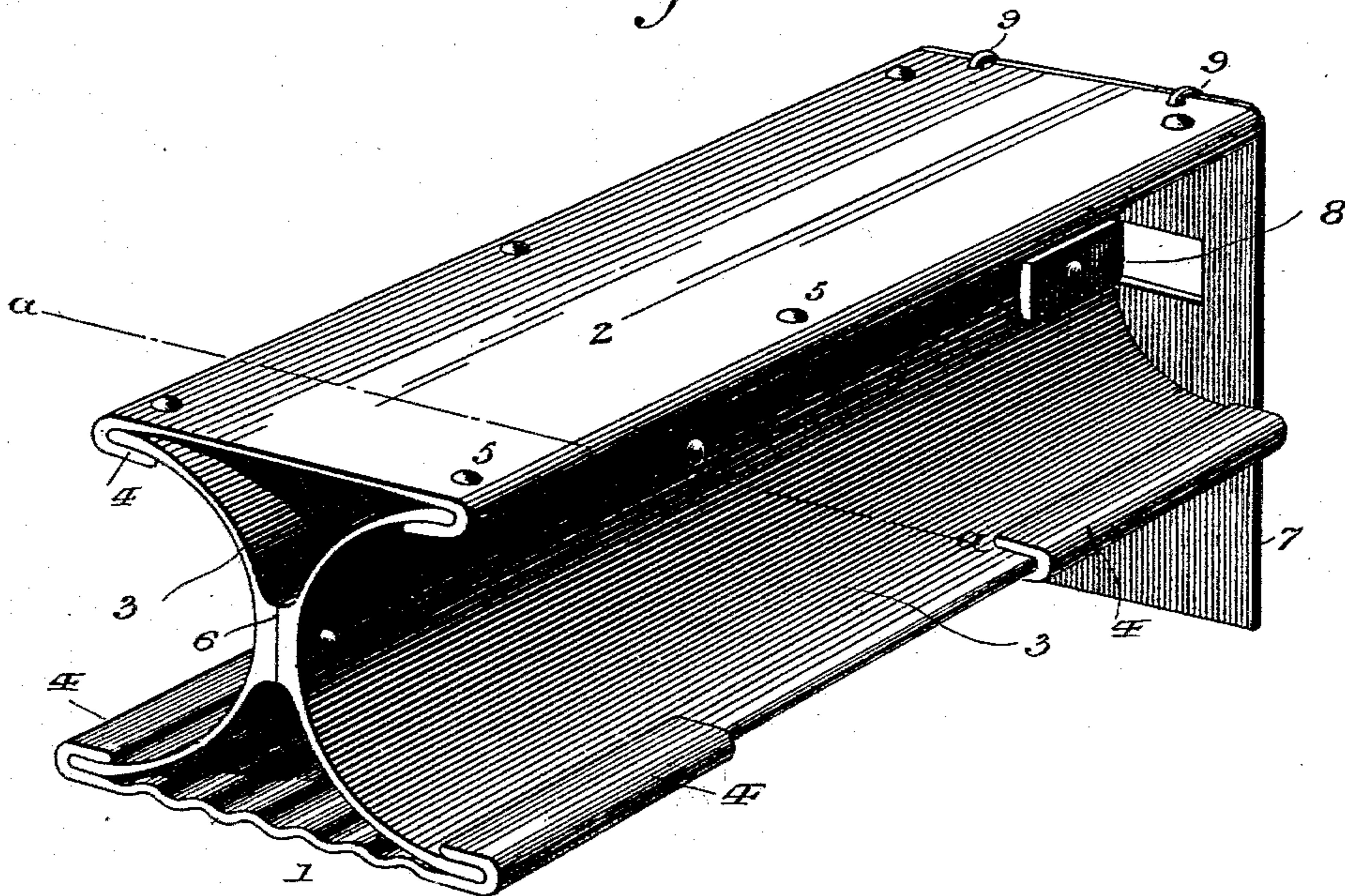
(No Model.)

L. E. WHIPPLE.  
RAILROAD TIE.

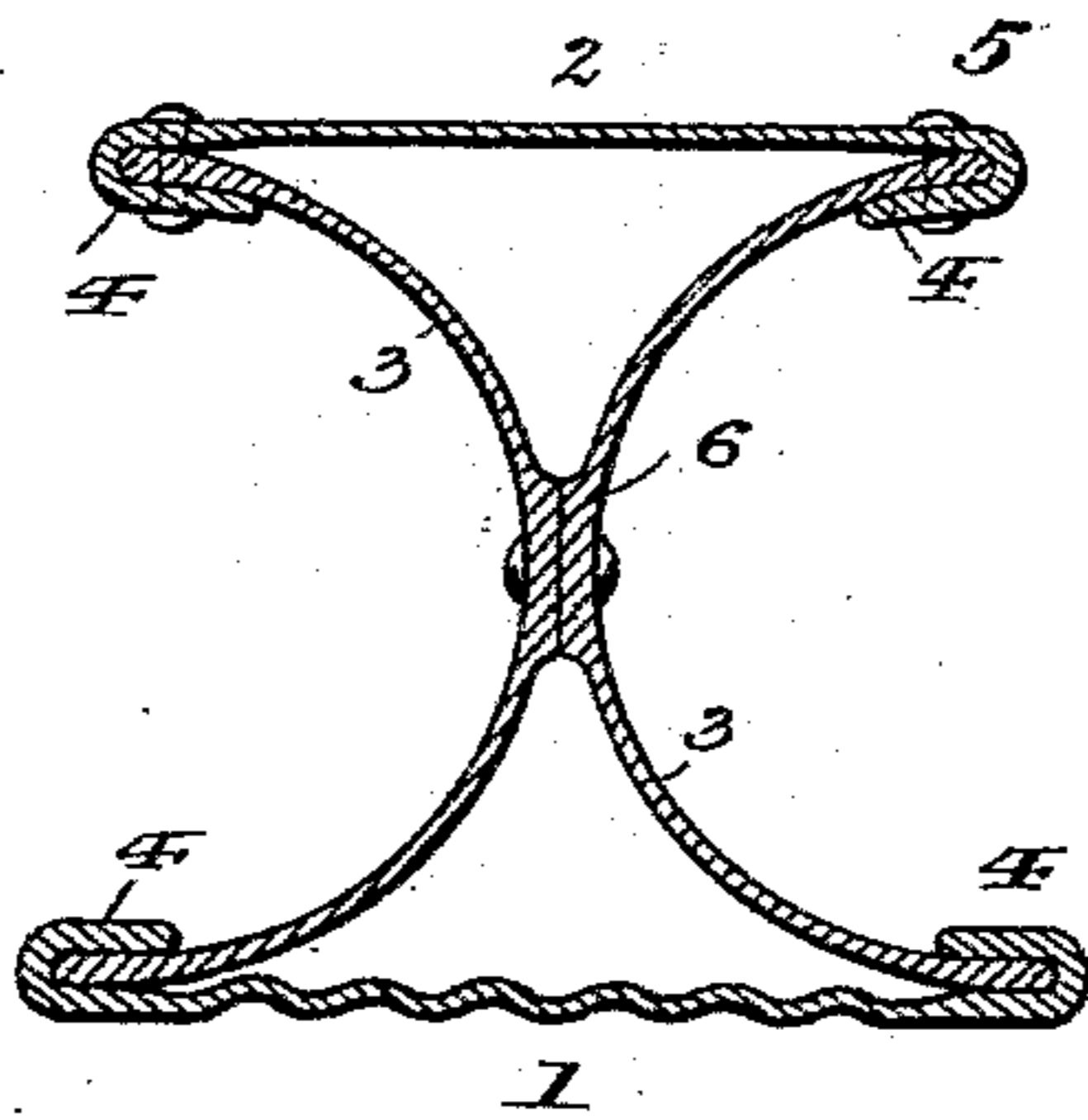
No. 511,227.

Patented Dec. 19, 1893.

*Fig. 1.*



*Fig. 2.*



Witnesses

*Raymond Barues*  
*Fabius S. Elmore*

Inventor

*L. E. Whipple*  
By *P. T. Dodge*  
Attorney

# UNITED STATES PATENT OFFICE.

LEANDER EDMUND WHIPPLE, OF NEW YORK, N. Y.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 511,227, dated December 19, 1893.

Application filed March 17, 1893. Serial No. 466,480. (No model.)

*To all whom it may concern:*

Be it known that I, LEANDER EDMUND WHIPPLE, of New York, county of New York, and State of New York, have invented a new and useful Improvement in Railroad-Ties, of which the following is a specification.

My invention relates to metallic railroad ties of the character represented in the patent granted to me on the 6th day of October, 1885, No. 327,843, in which is shown a sheet metal tie composed of a base plate and a top plate united by intervening plates of curved form in cross section, the edges of the intervening plates being embraced by flanges on the edges of the base plate and top plate.

The present invention consists in various improvements in ties of this description designed to render the same strong and durable, and capable of withstanding without injury the severe strains and shocks to which they are subjected in practice; to prevent the "creeping" action of the ties and their lateral endwise motion.

The invention also consists in the details of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1, represents a perspective view of a railroad tie having my invention embodied therein. Fig. 2, is a vertical cross section of the same on the line *a-a*.

Referring to the drawings, my improved tie comprises a base plate 1, a top plate 2, and two intermediate plates 3 of curved form in cross section, the edges of which are confined by flanges 4 on the base and top plate. The plates are formed of sheet metal, and are thickened at their edges as shown, so that the edges of the tie when the parts are assembled, will present a greater thickness of metal than the remaining portions, which arrangement will materially strengthen the tie at those portions which are in practice subjected to the greatest amount of wear. This construction of parts is also of advantage when bolts are employed as at 5, to secure the edges of the plates together, inasmuch as the extra thickness of metal at these points will counteract any weakening effect which might follow the formation of bolt holes. I

also propose to thicken the intermediate plates 3 at their centers as at 6, forming on each plate a rib with a flattened face, the arrangement being such that the faces of the ribs will abut when the plates are in position, the result being that they will afford a mutual support at the point where the greatest strain comes, which will prevent the parts from readily moving from a vertical position when the tie is subjected to diagonal strain. Further the formation of ribs at this point will afford a greater bearing surface for the bolts, which may be employed to hold the plates together, or for attaching a rail fastening device such as is represented in my application of even date herewith, Serial No. 466,479.

Incident to the provision of a greater thickness of metal at the edges of the tie, the curved portions of the intermediate plates may be comparatively thin, which will insure a greater degree of elasticity to the tie.

The base plate 1 is corrugated transversely to present projecting ribs, which entering the road bed, will effectually prevent the objectionable and well known "creeping" action of the tie. This base plate I prefer to form in sections located at intervals, in order that the weight of the tie may be reduced, and a firmer hold in the ballast afforded. In order that the tie may be prevented from moving endwise, I provide a vertical plate 7, which is applied to the end of the tie, and secured thereto by means of lips 8, extending at the outer sides of the intermediate plates 3, and riveted or otherwise firmly attached. The lower end of this plate extends below the base plate as shown, so that it will afford a resistance to the longitudinal movement of the tie. The plate may be further secured at its upper edge to the top plate by hooks 9, entering the same as shown.

Having thus described my invention, what I claim is—

1. In a railroad tie the combination of a base plate, a top plate and two intervening plates, said plates having their edges thickened and secured together, substantially as described.

2. In a railroad tie the combination of a flanged top plate provided with thickened

edges, a base plate and two intermediate plates sustained by the base plate and provided with a thickened upper edge seated within the flange of the top plate, substantially as described.

3. In a railroad tie the combination of a flanged base plate provided with thickened edges, a flanged top plate also provided with thickened edges, and the two intermediate plates provided with thickened edges seated within the flanges of the base and top plates, substantially as described.

4. In a railroad tie the combination of a base plate, a top plate and two supporting plates secured at their edges respectively to the base and top plates and provided between their ends with abutting ribs, substantially as described.

5. In a railroad tie the combination of a base plate and top plate thickened at their edges and provided with flanges, and two intermediate curved plates provided with a thickened edge seated within said flanges and

having at their centers abutting ribs formed with flat faces, substantially as described.

6. In a sheet metal railway tie the combination with the top plate and side plates secured thereto, of the sheet metal base plate connected to the lower edges of the said plates and formed with corrugations extending longitudinally of the tie.

7. In a railroad tie the combination with the body portion, the two curved plates united at their edges, of a vertical plate applied to the end of the body portion and extending below the same and provided with lips embracing the outer sides of the curved plates, substantially as described.

In testimony whereof I hereunto set my hand, this 21st day of February, 1893, in the presence of two attesting witnesses.

LEANDER EDMUND WHIPPLE.

Witnesses:

GEORGE GASTLIN,  
C. A. DUGAN.