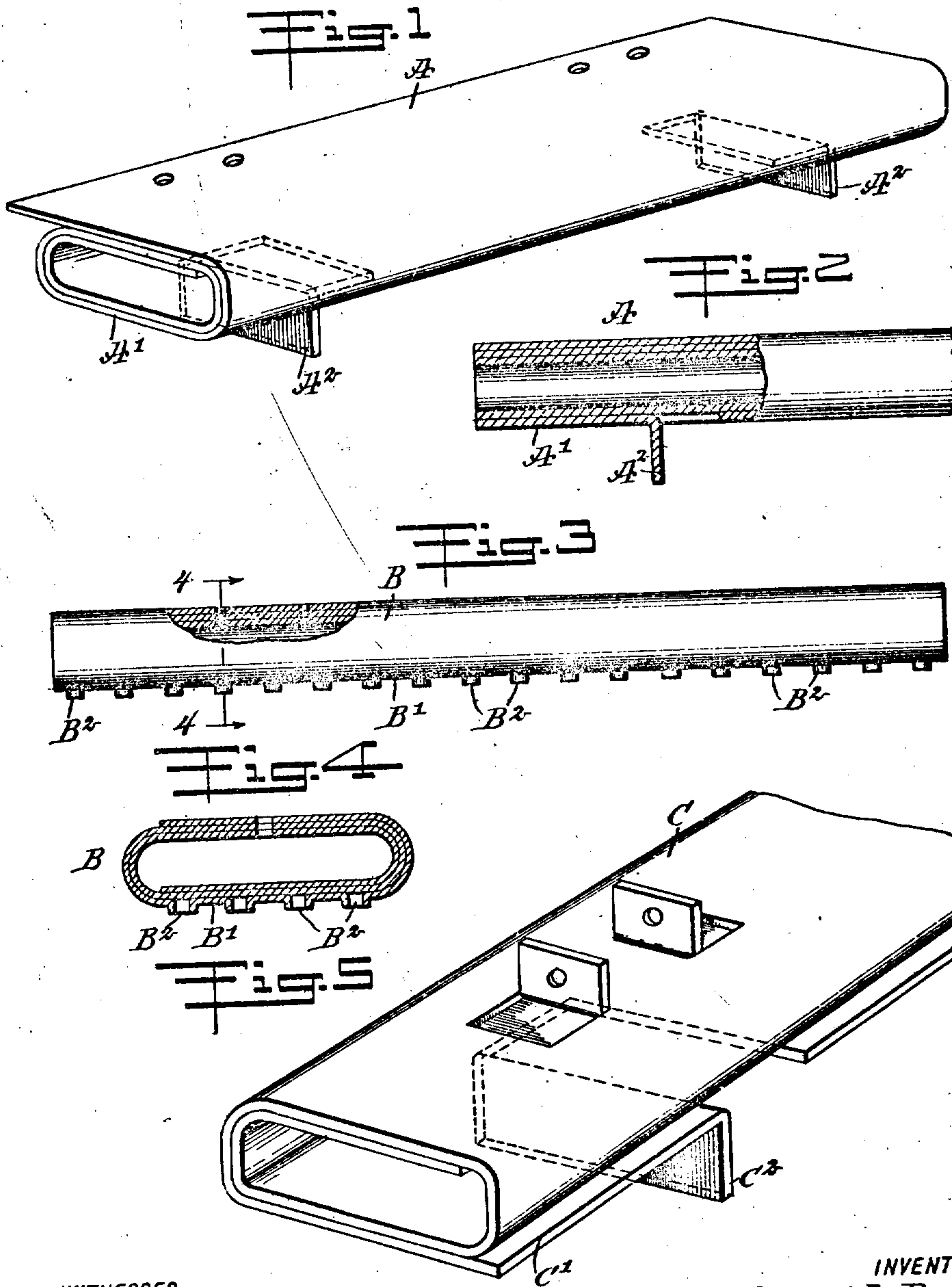


R. L. BOWER.
RAILROAD TIE.
APPLICATION FILED MAY 28, 1907.

Patented Sept. 22, 1908.

899,023.



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UNITED STATES PATENT OFFICE.

ROBERT L. BOWER, OF BLANDBURG, PENNSYLVANIA.

RAILROAD-TIE.

No. 899,023.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed May 28, 1907. Serial No. 376,094.

To all whom it may concern:

Be it known that I, ROBERT L. BOWER, a citizen of the United States, and a resident of Blandburg, in the county of Cambria and State of Pennsylvania, have invented a new and Improved Railroad-Tie, of which the following is a full, clear, and exact description.

The invention relates to metallic railroad ties such as shown in the Letters Patent of the United States, No. 855,277, granted to me on May 28, 1907, and in the application for Letters Patent of the United States, Serial No. 354,173, filed by me on May 21, 1907.

The object of the present invention is to provide a new and improved metallic railroad tie arranged to prevent movement of the tie in the direction of its length, that is, transverse to the road-bed, thus rendering the tie eminently useful on curves and other places subjected to great force by the passage of heavily loaded or fast speed trains.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement; Fig. 2 is a side elevation partly in section, of the same; Fig. 3 is a side elevation of a modified form of the improvement, part being in section; Fig. 4 is a sectional end view of the same on the line 4-4 of Fig. 3, and Fig. 5 is a perspective view of another modified form of the improvement.

The improved metallic railroad tie is preferably made from a single piece of sheet metal, of a width corresponding to the length of the tie, the piece of sheet metal being rolled up or otherwise treated to produce a tie of uniform strength and of practically normal width and thickness.

The piece of sheet metal may be rolled up into various forms, as illustrated in the drawings and as shown in the Letters Patent, and in the application for Letters Patent above referred to, and the tie formed in the manner shown and described may be provided with any one of the rail fastening and anti-spread-

ing devices shown in the said patent and in my former application above referred to, so that further description of the form of the tie and the rail fastening and anti-spreading devices is not deemed necessary.

In the present invention the essential feature consists of means for preventing the tie from shifting mainly in the direction of its length and transverse to the road-bed, and also to prevent the tie from shifting in the direction of the length of the road-bed.

As shown in Figs. 1 and 2, the rolled up sheet metal tie A has its flat bottom layer or convolution A' provided with one, two or more downwardly extending struck-up lugs A² ranging in the direction of the width of the tie, so that when the tie and its lugs A² are embedded in the road-bed, the lugs A² resist transverse shifting of the tie in the road-bed, even when the tie is subjected to high lateral strains, such as occur, for instance, on curves on the passage of heavy loaded or high speed trains.

In the modified form illustrated in Figs. 3 and 4, the rolled up sheet metal tie B has its bottom layer or convolution provided with a large number of depending struck-up apertured bosses B², preferably arranged in transverse and longitudinal rows, and embedded in the road-bed material with the tie, the road-bed material being free to enter the openings in the bosses B² to increase the resistance of the tie against movement in any direction.

As shown in Fig. 5, the bottom layer or convolution C' of the tie C is provided with one or more depending lugs C² ranging in the direction of the width of the tie from the outer or beginning edge of the bottom layer or convolution C' to the other side of the tie.

Although I have shown but a few samples of the means for preventing the tie from shifting laterally in the road-bed, it is evident that other forms besides the ones shown and described may be employed, and hence I do not limit myself to the particular construction illustrated.

By making the resisting means against shifting of the tie integral with the bottom layer or convolution of the tie, the latter can be readily and cheaply constructed.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. A railroad tie made of a piece of sheet metal rolled up to form a tube, the outermost
5 convolution of the rolled up tube having integral transverse projections for embedment in the road-bed.

2. A railroad tie made of a piece of sheet metal rolled up to form a tube, the outer-
10 most convolution of the said rolled up tie hav-

ing integral struck-up lugs extending transversely of the tie for embedment in the road-bed.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

ROBERT L. BOWER.

Witnesses:

PATT McHUGH,
NELLIE BOWER.