

No. 882,298.

PATENTED MAR. 17, 1908.

L. R. CUSTER.
METALLIC RAIL TIE.
APPLICATION FILED MAY 2, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

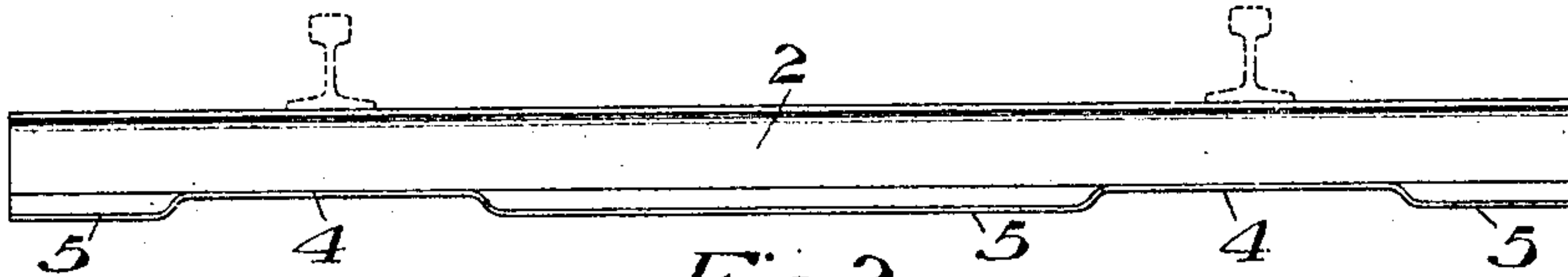


Fig. 2.

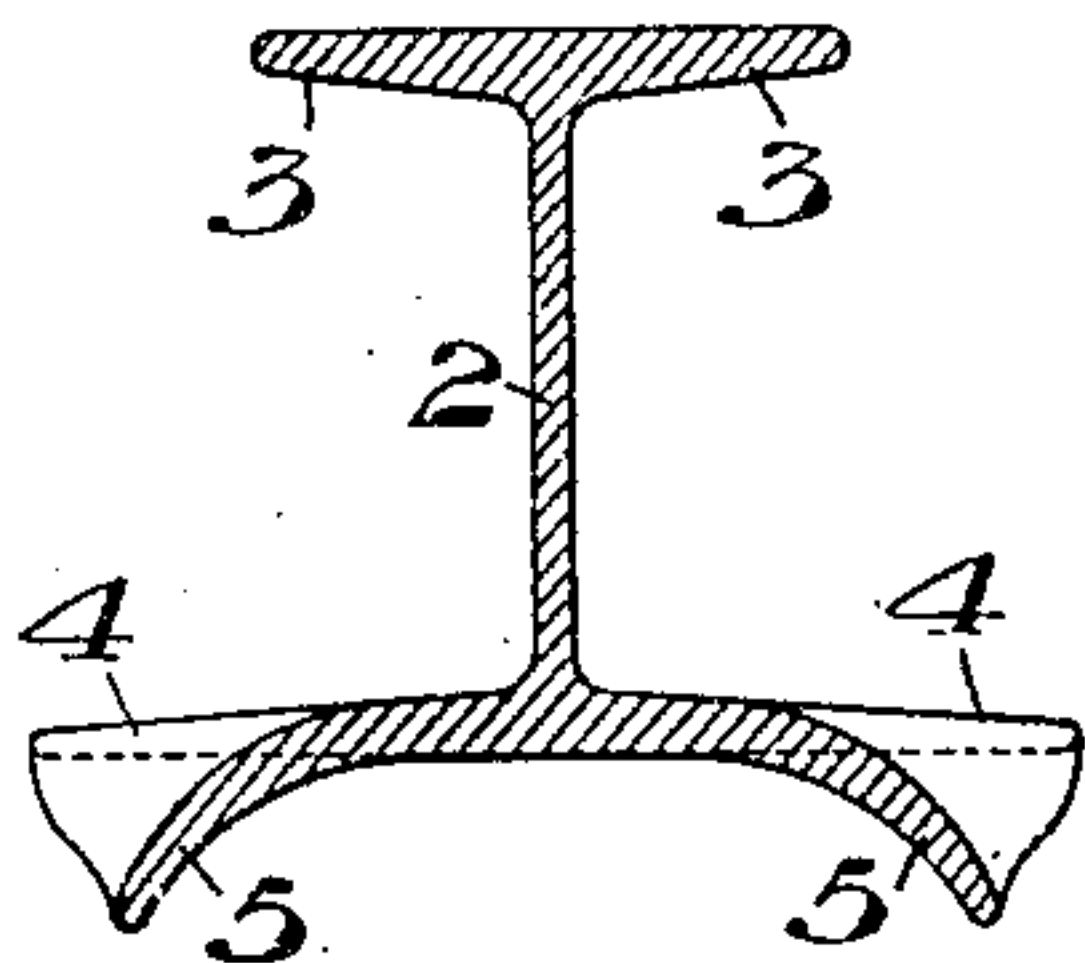


Fig. 3.

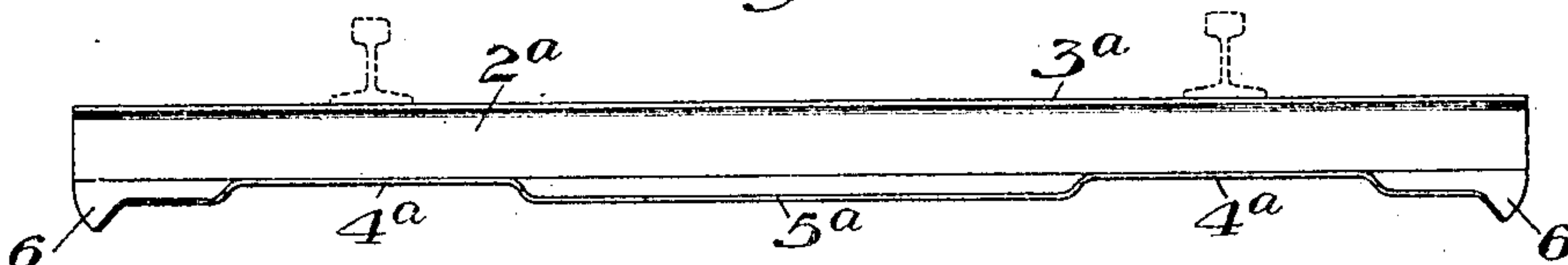


Fig. 4.

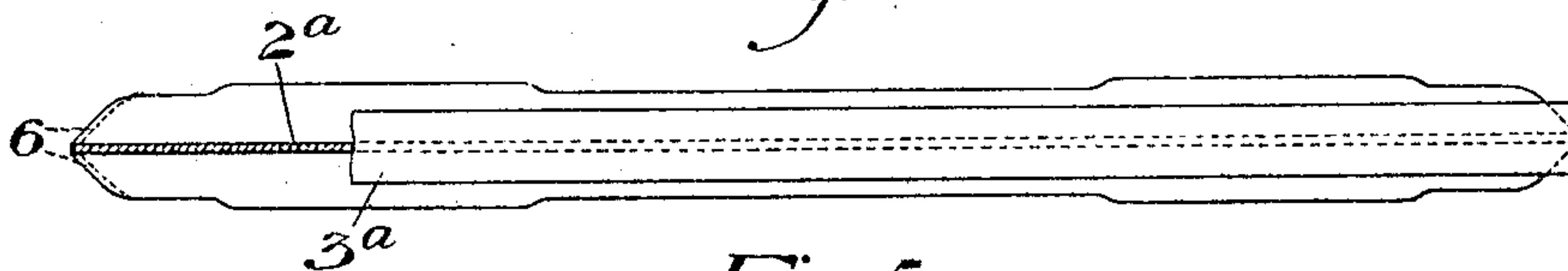
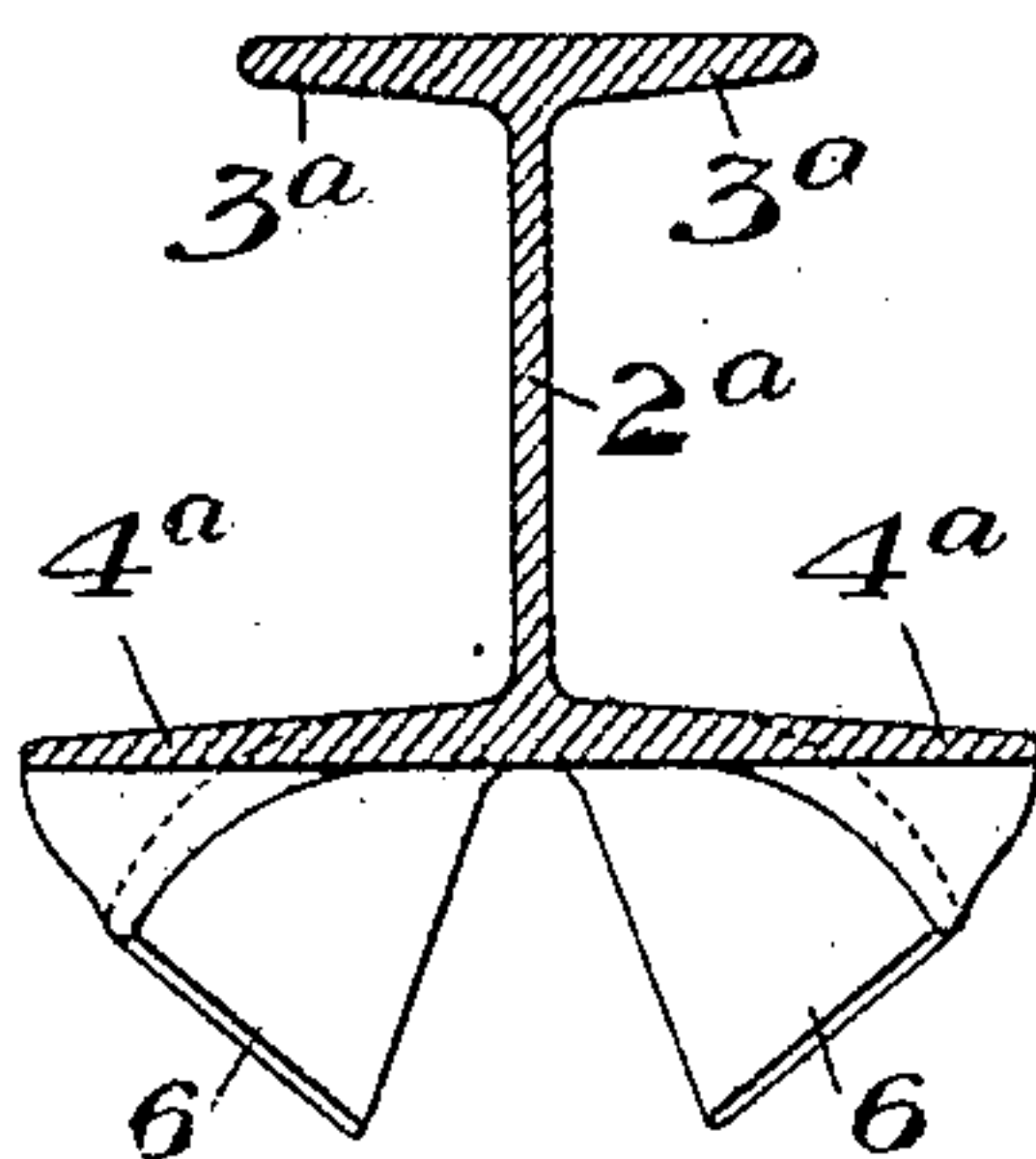


Fig. 5.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6.

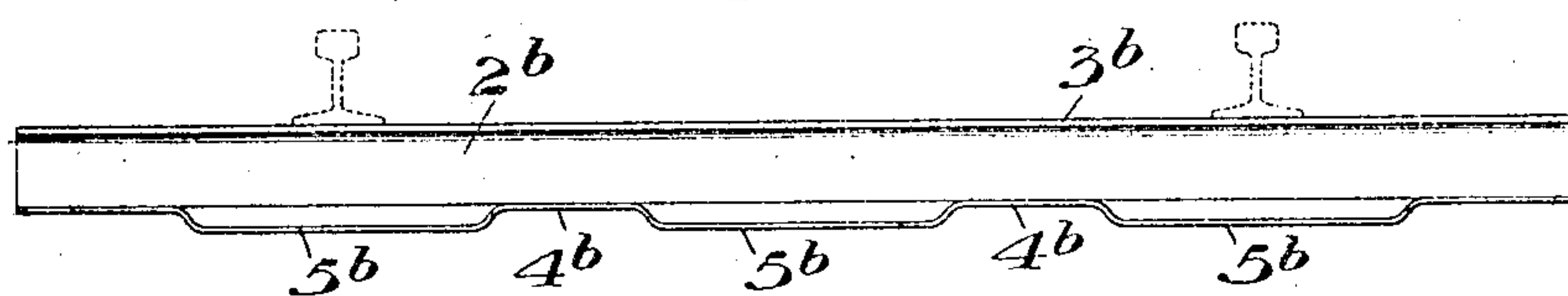
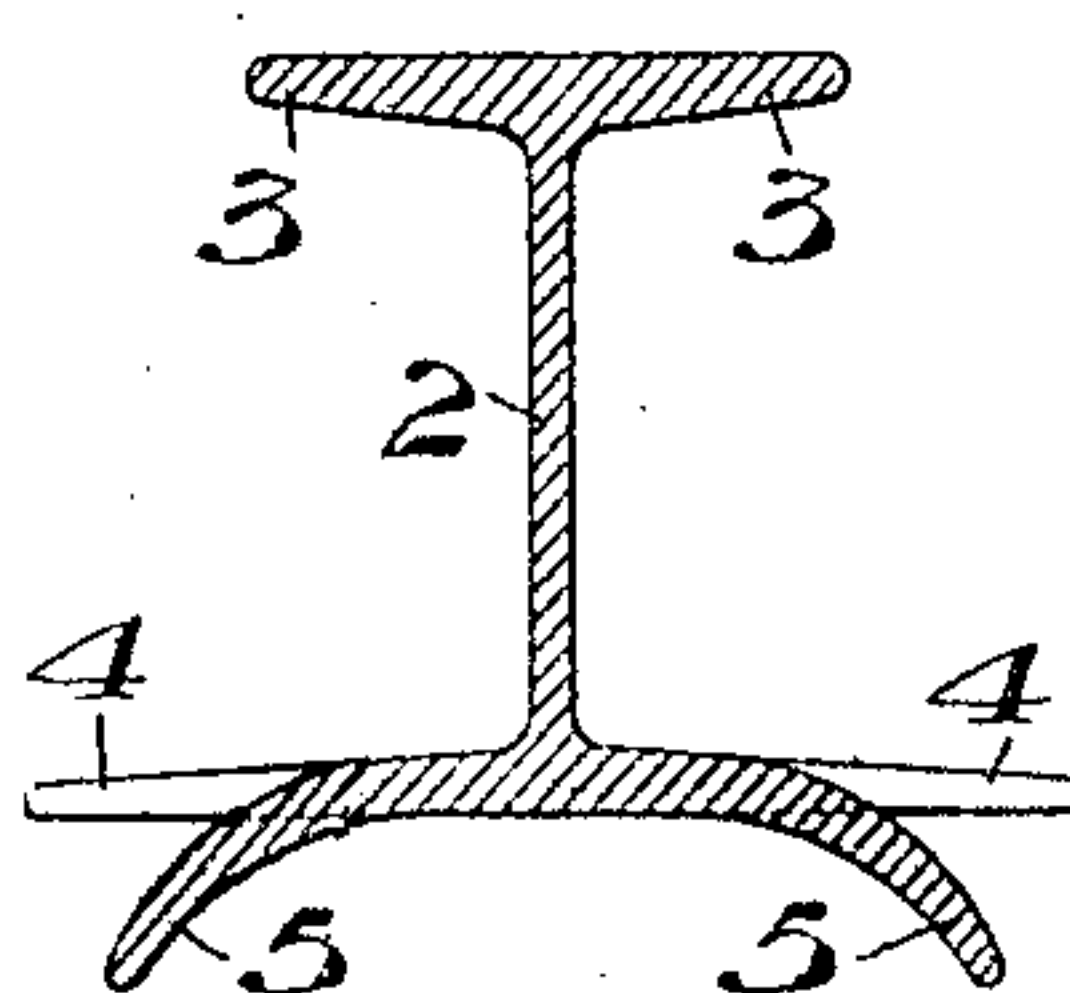


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

LOUIS R. CUSTER, OF MUNHALL, PENNSYLVANIA.

METALLIC RAIL-TIE.

No. 882,298.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed May 2, 1907. Serial No. 371,517.

To all whom it may concern:

Be it known that I, LOUIS R. CUSTER, of Munhall, Allegheny county, Pennsylvania, have invented a new and useful Metallic Rail-Tie, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the tie showing the position of the rails in dotted lines; Fig. 2 is an enlarged central cross-section of the tie; Fig. 3 is a view similar to Fig. 1 showing a modified form; Fig. 4 is a top plan view of Fig. 3 partly broken away; Fig. 5 is an enlarged central cross-section of the form of Fig. 4; Fig. 6 is a view similar to Fig. 1 showing another form of the invention; and Fig. 7 is a view similar to Fig. 2 showing a further form.

My invention relates to metallic ties of general I-beam form, such as now rolled by the Carnegie Steel Company.

The object of the invention is to provide simple and effective means for preventing side movement of the tie in the direction of the rails. This takes the place usually in multiple track systems where the trains on one track are always moving in the same direction, and is known as "creeping".

Another object of the invention is to prevent endwise movement of the tie in the ballast, and to better seat the tie within the ballast and prevent movement of the ballasting material.

In the drawings, referring to the form of Figs. 1 and 2, I show an I-beam tie having a web 2, an upper flange or flanges 3, and oppositely projecting base flanges 4. These base flanges are preferably rolled substantially at right angles to the web 2 and parts of these base flanges are then bent down as shown at 5, in Figs. 1 and 2. In this form, I have shown the bent-down portions as arranged between and beyond the rail-supporting portions of the tie. This bending may be carried out in a hydraulic press with suitable dies or by any other desirable mechanism. When the tie is in place, the bent-down base flanges engage the ballast and tend to prevent creeping of the tie in the direction of the rails; while the shoulders between the bent-down portions and the normal flange portions also tend to prevent endwise movement of the tie.

In Figs. 3, 4 and 5, I show a form similar to that of Figs. 1 and 2, except that the end

portions 6 of the base flanges are bent downwardly and inwardly as shown, in order to still further lock the tie in the ballast against endwise movement. In these figures, parts similar to those of Figs. 1 and 2 are designated by similar numerals with the letter *a* applied. In Fig. 6, I show a form similar to that of Figs. 1 and 2, except that the bent-down portions 5^b are beneath the rail-supporting portions of the tie, another bent-down portion being shown at the center. In this figure, parts similar to those of Fig. 1 are designated by similar numerals with the letter *b* applied.

In Fig. 7 I show a form similar to that of Figs. 1 and 2 except that the flanges are slitted transversely and bent down, so that the bent down flange portions are separated at their ends from the normal flange portions.

The advantages of my invention result from re-shaping at least a portion of the base flanges of an I-beam tie, thus preventing side creeping. Also from avoiding liability to endwise movement of the tie in the ballast. The strength of the tie is not substantially altered, and the operation may be cheaply and rapidly carried out.

Instead of rolling the base flanges in a right-angled position they may be rolled in approximately the position shown in Fig. 8; and portions thereof may be bent upwardly into substantially right-angled position, to form any of the ties shown, or other forms.

The tie may have one or two upper flanges, and other changes may be made without departing from my invention.

I claim:—

1. An I-beam tie having continuous base flanges, parts of which are in their normal rolled position the remaining parts thereof being bent downwardly in substantially parallel planes; substantially as described.

2. An I-beam tie having the base flanges bent downwardly in parts thereof with shoulders between the bent-down portions and the normal portions; substantially as described.

In testimony whereof, I have hereunto set my hand.

LOUIS R. CUSTER.

Witnesses:

GEO. H. PARMELEE,
H. M. CORWIN.