

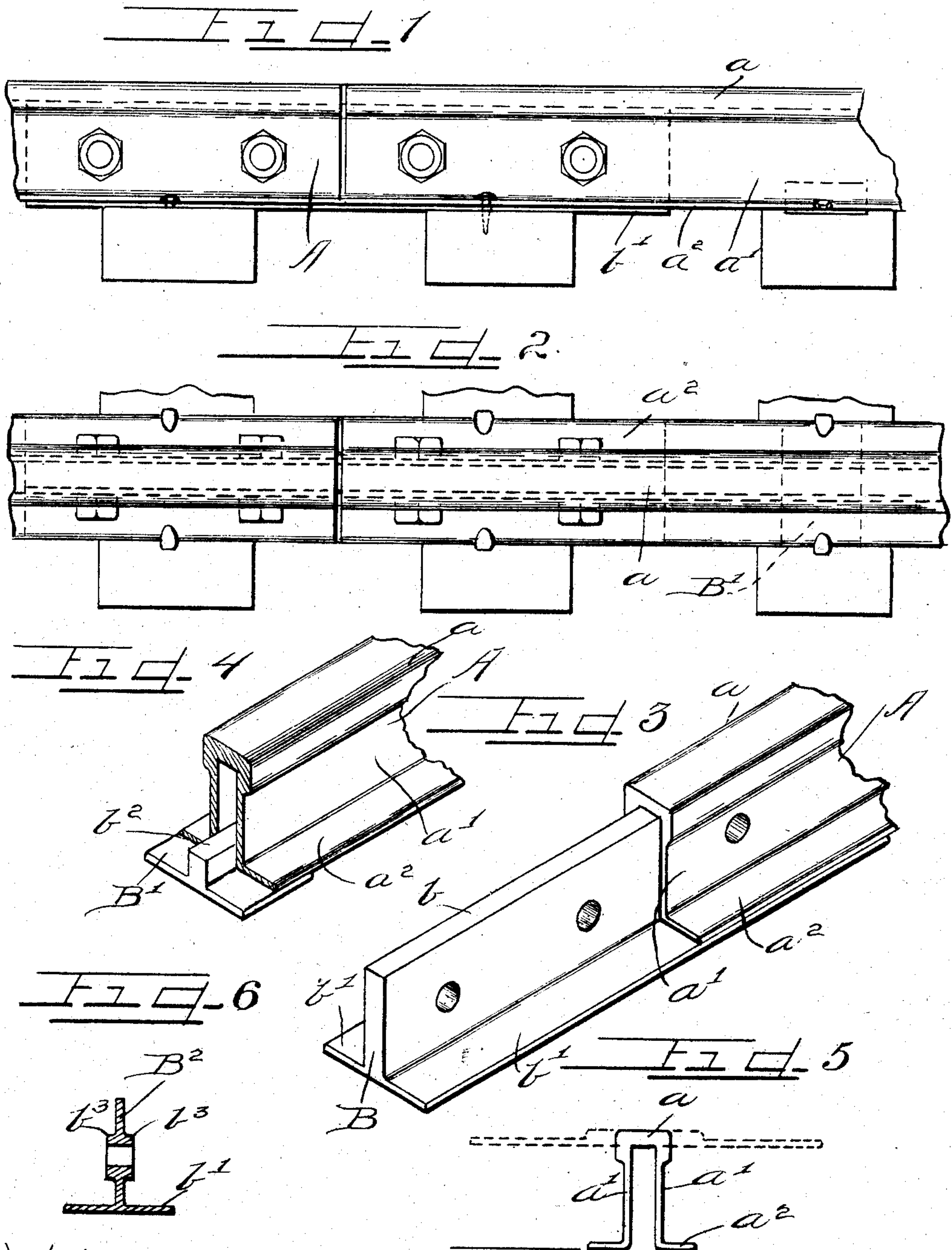
No. 864,464.

PATENTED AUG. 27, 1907.

E. HAMILTON.
RAILWAY RAIL AND CONNECTION THEREFOR.

APPLICATION FILED AUG. 20, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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RAILWAY-RAIL AND CONNECTION THEREFOR.

No. 864,464.

Specification of Letters Patent.

Patented Aug. 27, 1907.

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To all whom it may concern:

Be it known that I, ERASTUS HAMILTON, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Railway-Rails and Connections Therefor; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in railway rails and connections therefor.

Heretofore it has been usual to construct railway
15 rails of relatively great weight in order that the required strength may be obtained thereby adding greatly to the cost. Furthermore it has usually been customary in making interfitting joints for the rails or form the splice bars integrally with the rails, a process which
20 is not only difficult but costly.

The object of this invention is to provide a very light and simply constructed rail having great strength and means for connecting the abutting rails which will afford both a splice bar and tie plate independent
25 of the rail and have all the advantages of an interfitting joint.

It is a further object of the invention to provide a combined tie plate and support for the rail against lateral thrust.

30 The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a fragmentary side elevation of a railway rail and connections therefor embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a fragmentary perspective view of the rail end and the combined splice bar and tie plate therefor. Fig. 4 is a perspective view showing one of the intermediate tie plates and the rail in section. Fig. 5 is an end elevation of the rail end showing in dotted lines the plate from which the rail is formed. Fig. 6 is a transverse section of a modified form of splice bar and tie plate. Fig. 7 is a plan view of a switch constructed with rails embodying my invention. Fig. 8 is a section taken on line 8—8 of Fig. 7. Fig. 9 is a section taken on line 9—9 of Fig. 7.

As shown in said drawings: The rails A each comprise a sheet or plate of steel or other suitable metal of the required length and which, as shown in dotted
35 lines in Fig. 5, is of greater thickness at its center than at its margins and is adapted to be rolled, pressed or otherwise bent downwardly longitudinally thereof at right angles to the plane of the sheet at both sides of its medial line thereby forming the rail head a from the thickened portion of the sheet and the lateral webs
55 a' — a' from the thin portions thereof. The lower mar-

gins of said webs are turned outwardly to provide the base flanges a^2 as shown in Fig. 5 and the rail thus formed has a downwardly opening channel for the full length thereof.

The splice bar, indicated as a whole by B, comprises, as shown, a bar b of metal of a thickness to fit closely in the channels in the abutting rail ends and is of a height to support the rail head against the pounding action of the car wheels. At the base of said bar b are laterally
60 directed flanges b' — b' which seat on the ties beneath the rail base and afford tie plates. Said splice bars may be of any preferred length but as shown they extend over a tie at each side of the joint and are bolted to the rail by means of splice bolts extending through
70 registering apertures in said webs and bars in the usual manner.

Intermediate the ends of the rails, tie plates B' are provided which as shown have an upwardly directed web or bar b^2 fitting into the channel in the rail but of
75 less height than the bar b though obviously they may be of equal height to support the rail head intermediate the ends of the rails should necessity require it. When the spikes are driven to engage the base flanges said bars b^2 act to greatly strengthen the rail against lateral
80 thrust and prevent its canting.

As shown in Fig. 6 the splice bar B^2 may be relatively thin and at the bolt apertures may be provided with raised bosses b^3 which fit closely between the rail webs a' .

The construction is equally well adapted for switch frogs as shown in Figs. 7 to 9 inclusive, in which the frog C comprises a sheet of metal shaped to form a section of the main track rail c and the switch rail c' and an intermediate plate c^2 slightly beneath the rail heads
90 and integrally connecting them. On the outer sides of said heads the margins of the sheet are bent downwardly and outwardly as before described to provide the rail webs c^4 and the laterally directed flanges c^5 forming the rail base. Fitting in said rail sections is
95 the bar D which as shown is provided with ribs d which rest beneath the rail heads and the central plate c^2 and is provided with side flanges d' affording the tie plates as before described.

The operation is as follows: The weight of the rails is
100 greatly reduced because of the continuous channel therein and the splice bars and tie plates may be easily adjusted to any desired point longitudinally of the rail. Inasmuch as the splice bars are formed independently of the rails the latter may be easily removed by simply
105 removing the splice bolts. Obviously as the splice bar and connected tie plate rest upon the ties and as the rail heads rest on the splice bars a very rigid construction is obtained which is able to withstand the pounding of the car wheels and while I have shown the tie
110 plates B' as having a relatively low rib or bar it is obvious that said bar may be of a height to support the

rail head if desired. The central bars extending upwardly from the tie plates into the rail add greatly to the strength of the latter and prevent the rail from canting.

5 I claim as my invention:

1. In a device of the class described a rail having a head, web and flanges and provided with a slot opening from the head through the web, a tie plate connecting the ends of adjacent rails and having webs abutting against the head
10 of the rails and a plurality of short intermediate tie plates between the ends of each rail.

2. In a device of the class described the combination with a rail having a hollow web and head, of a tie plate adapted to connect adjacent ends of two rails and having a
15 web bearing against the head and a short intermediate plate of a length approximately the width of the tie

adapted to be engaged to each tie and to support and brace said rail intermediate its ends.

3. In a device of the class described the combination with a rail having a hollow head and web, of tie plates 20 adapted to connect the abutting ends of two rails and having apertures registering with apertures in the rail ends, a plurality of intermediate tie plates each adapted to rest on a tie and having a flange adapted to engage beneath the flange on the rail and a short upwardly directed web 25 to engage the slot in said rail.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

ERASTUS HAMILTON.

Witnesses:

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