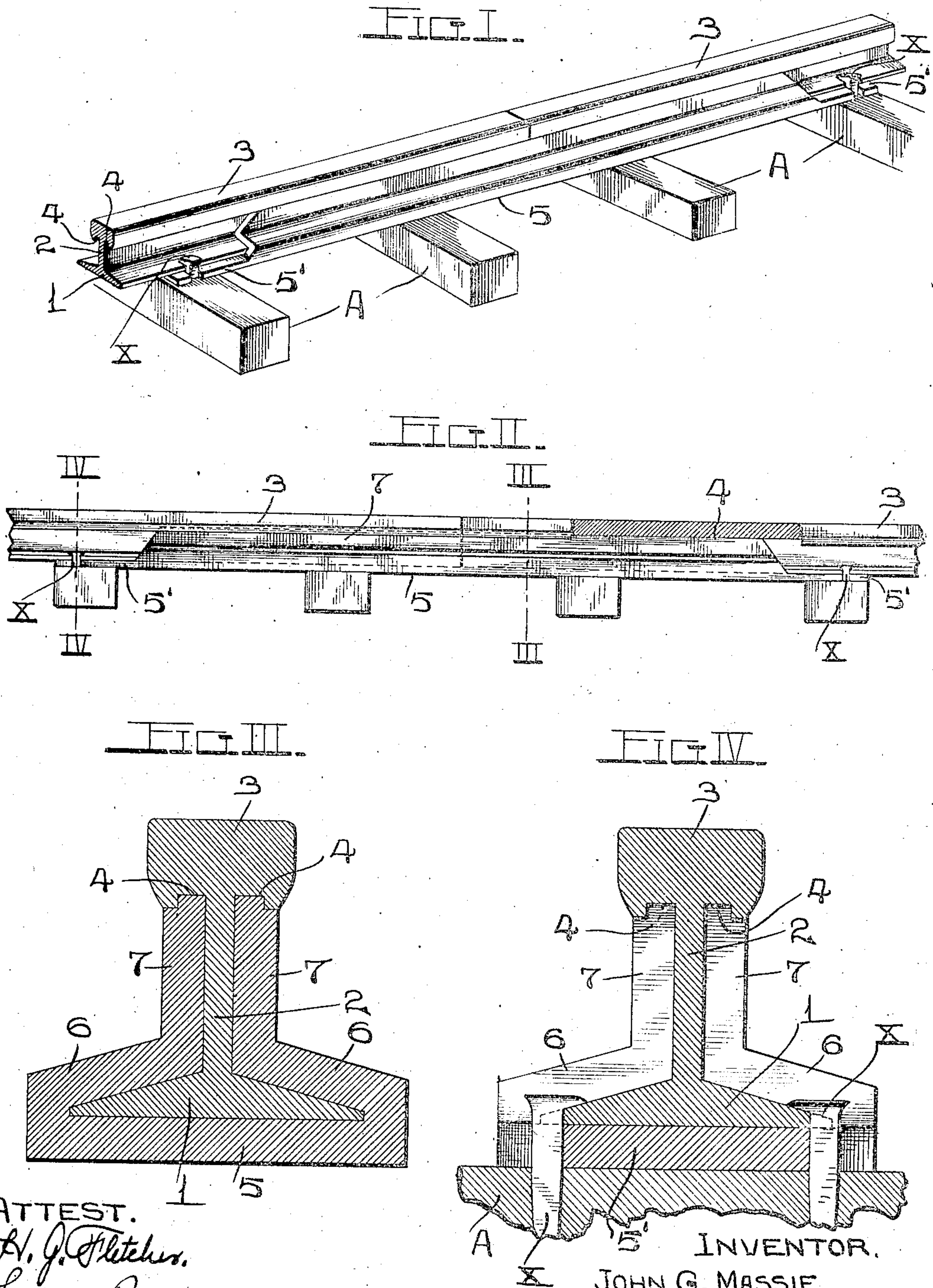


J. G. MASSIE.
RAILWAY RAIL AND JOINT TRUSS THEREFOR.
APPLICATION FILED AUG. 6, 1907.

908,298.

Patented Dec. 29, 1908.



ATTEST.
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Lily Rost

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UNITED STATES PATENT OFFICE.

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RAILWAY-RAIL AND JOINT-TRUSS THEREFOR.

No. 908,298.

Specification of Letters Patent.

Patented Dec. 29, 1908.

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To all whom it may concern:

Be it known that I, JOHN G. MASSIE, a citizen of the United States of America, residing in Belleville, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Railway-Rails and Joint-Trusses Therefor, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to railway rails and splice pieces that constitute trusses at the joints of railway tracks, whereby the rails are rigidly held in alignment with each other and prevented from either spreading or becoming depressed, due to the force exerted thereagainst by the track wheels of railway rolling stock traveling thereon.

Careful investigation into the causes of railroad wrecks that are occasioned due to the rails of the railway track becoming unserviceable to maintain the rolling stock in its true course upon the track, has demonstrated that these causes may be briefly summarized as follows:

First: As a consequence of the track rails becoming crystallized due to their being bent downwardly under the powerful blows or impact against them by the wheels of railway rolling stock in the passing over low joints in which the ends of both the abutting rails are depressed, or in which the end of one rail is depressed while the end of the adjacent and abutting rail is elevated above the end of the first named. When the joints become such that the rails are as stated, the rails are susceptible to a force that causes crystallization to take place in the metal of which they are composed; due to the force of the blows they receive from the rolling stock wheels, and they soon become broken with the obvious consequence.

Second: The depression of the joints results in an uneven or wave-like tread surface for the rolling stock wheels, which renders the travel of the rolling stock uncertain and is moreover, the occasion for great injury to the rolling stock.

Third: The railway rails being insecurely and insufficiently held in place are liable to turn upon their supports with the obvious result.

My improvement in railway rails and trusses therefor is designed especially with

the object in view of overcoming the causes of wrecks pointed out in the foregoing.

Figure I is a perspective view of portions of two abutting railway rails and my truss connecting them. Fig. II is a view partly in side elevation and partly in longitudinal section of the parts shown in Fig. I. Fig. III is an enlarged cross section taken on line III—III, Fig. II. Fig. IV is an enlarged cross section taken on line IV—IV, Fig. II.

In the accompanying drawings, A designates a plurality of railway track ties on which may be laid my rails and trusses, in conformity with the usual practice of laying railway rails.

Each railway rail constructed in accordance with my invention, comprises a flanged base 1, a vertical web 2, and a head 3. At the bottom of the head of the rail and at each side of the rail web is a longitudinal groove 4, which constitutes a socket to receive a part of the truss or splice piece, as will hereinafter appear.

The truss or splice piece comprises a base 5 that is adapted to occupy a position beneath the bases of two abutting railway rails that are to be joined by the truss, two inwardly extending portions 6 that overlap the tops of the flanges of the bases of the rails, and vertical portions 7 which embrace the webs of the rails. The vertical portions of the truss are shaped at their upper edges to conform to the shapes of the grooves or seats 4 at the bottoms of the heads of the rails, as seen in Figs. III and IV, and when the truss is applied to the rails the upper edges of the vertical portions 7 become interlocked in the grooves or seats of the heads of the rails, whereby the rails are firmly held within the truss without the necessity of employing bolts passed through the webs of the rails and the portions of the truss that embrace said webs.

It will be readily seen that the construction of the truss described effectually trusses or braces the abutting ends of the railway rails against downward or lateral movements, and that consequently there is no opportunity for the depression of the rails at either ends. To provide for the attachment of the truss and the rails to the railway ties, the bottom of the truss is provided at each end with an extension 5' which is notched as seen in Figs. I and IV and the base flanges of each rail are notched at points to correspond

with the notches in the extensions, thereby permitting the application of spikes X to the parts and which, upon being driven into the ties, serve to maintain the truss and rails in their proper positions in order that neither may shift relative to the other and also preventing spreading of the rails, or turning thereof, when confined in the truss.

In assembling the parts for connecting two rail sections together, the truss or splice piece may be placed in position on the cross ties of the track and pinned in place by entering the spikes in the notches of the end extensions and partially driving the spikes into the ties. One rail section is then inserted longitudinally into the truss until the middle of the latter is reached and then the other rail section is inserted until it meets the section first inserted. After this is done, the spikes are driven home until the heads thereof bear on the bases of the rail sections. It will be observed that the ends of the portions 6 and 7 are inclined inwardly and upwardly from the end extensions of the base portion of the truss. This is advantageous as it enables the extremities of the rail sections to be more readily inserted than if the said portions were cut off in a transverse plane. In initially placing the ends of the rail sections in the truss, the end of each section is first placed on top of the end extension 5' and slid inwardly while resting on the said extension until the ends of the portions 6 are reached, at which point the base of the rail section is guided under the said portions. When in this position, the section can be fully inserted without further care being taken to guide its movement, as the web of the section will pass freely be-

tween the portions 7 and the tongues of the said portions will freely enter the grooves in the head of the rail section, since the base of the latter has been already engaged under the portions 6 that serve to hold the section straight during the inward sliding movement thereof.

Claim:

In a rail joint, the combination of a pair of rail sections each comprising a base, a web, and a head; a truss or splice piece comprising a flat base plate of such length as to rest upon several ties and on which the bases of the said sections bear, inwardly inclined flanges connected with the out edges of base plate and overlapping the top of the section bases, vertically-extending parallel flanges connected with and rising from the inner edges of the inclined flanges for engaging opposite sides of the webs of the rail sections, said flanges extending longitudinally of the splice piece and extensions at the ends of the base plate integrally connected therewith and flush with the latter, said extensions being of greater width than the bases of the rail sections and having spike-receiving notches at opposite sides, the opposite ends of each vertical flange being inclined inwardly and upwardly toward each other from the inner ends of the said extensions; and spikes engaging in the notches of the said extensions and arranged with their heads bearing on the bases of the rail sections.

JOHN G. MASSIE.

In the presence of—

JAS. H. HARMER,
FRED H. KRUGER.