No. 855,960. PATENTED JUNE 4, 1907.

H. E. MATTHEWS.

RAILWAY TIE.

APPLICATION FILED FEB. 9, 1907.

Fig. 1.

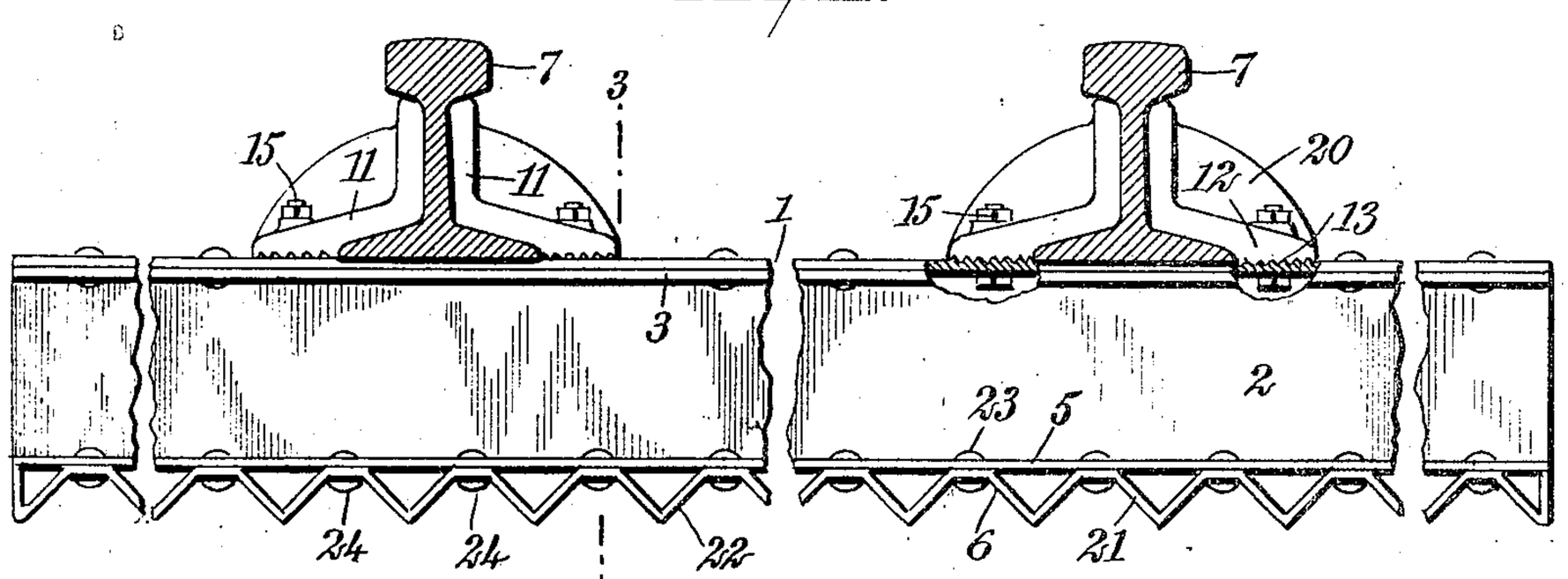


Fig. 2

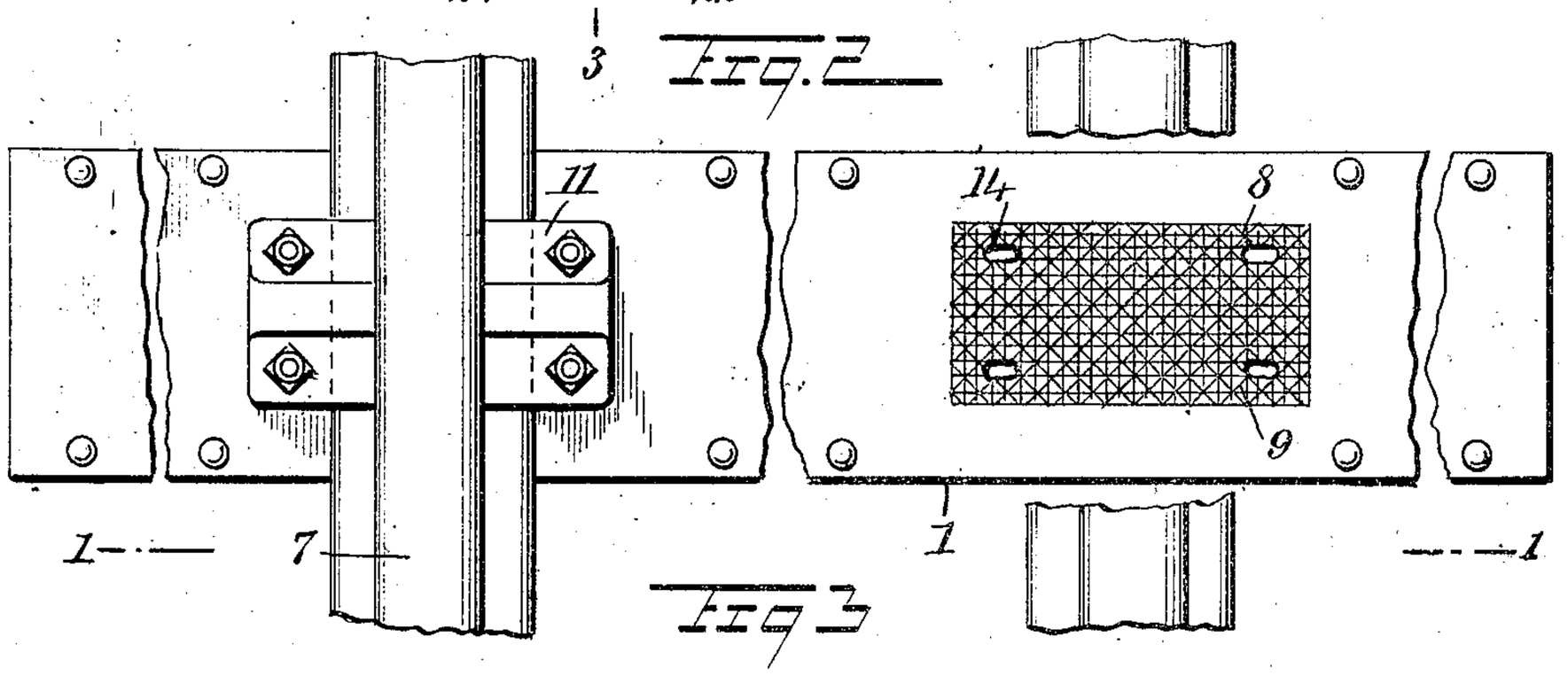


Fig 3

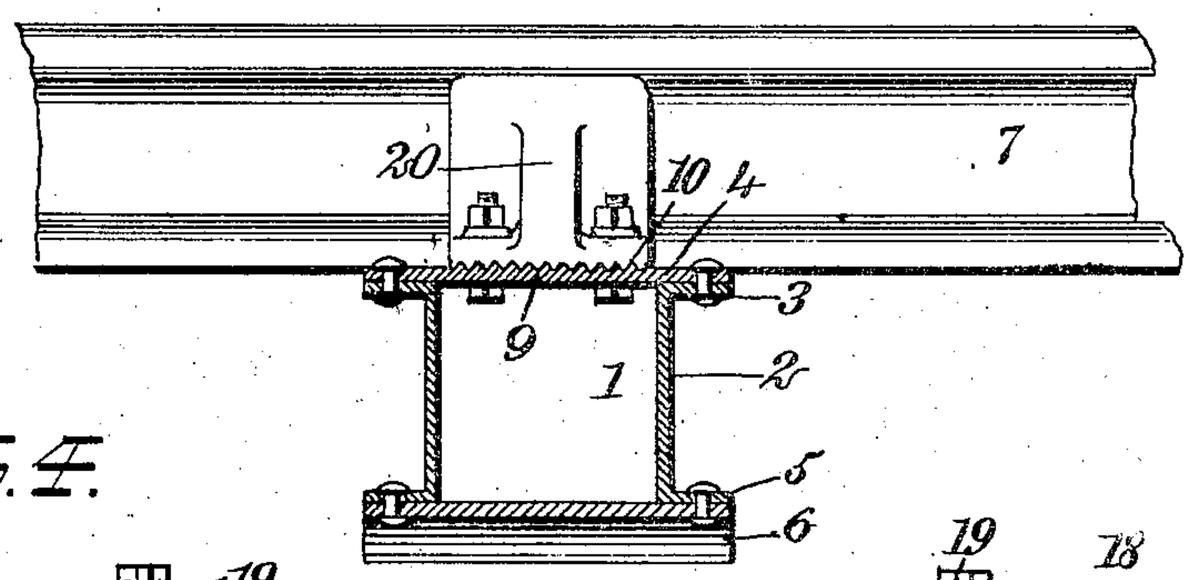
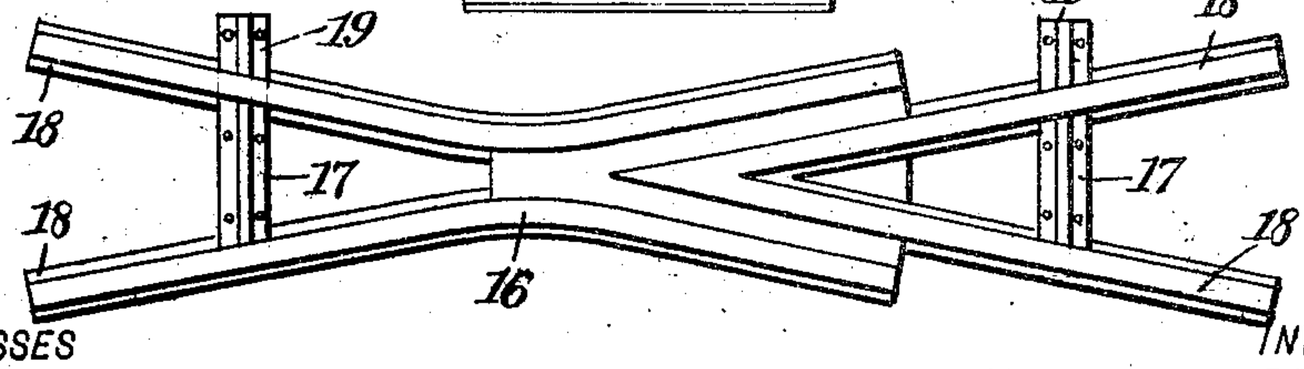


Fig. 4.



WITNESSES

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RAILWAY-TIE.

No. 855,960. Specification of Letters Patent. Patented June 4, 1907.

Application filed February 9, 1907. Serial No. 356,538.

To all whom it may concern:

Be it known that I, HENRY EDWARD MATTHEWS, a citizen of the United States, and a resident of Salida, in the county of Chaffee and State of Colorado, have invented a new and Improved Railway-Tie, of which the following is a full, clear, and exact description.

This invention relates to railway ties, and the object of the invention is to produce a metal tie of simple construction having a special form which facilitates the fastening of the rails thereto, and which tends to prevent a lateral displacement of the tie in the roadbed.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a transverse section through a track laid with my ties, portions of the body of a tie being represented as broken away and in section; the rails are also shown in section; this view is taken in the plane of the line 1—1 of Fig. 2; Fig. 2 is a plan of the parts shown in Fig. 1, a portion of one of the rails being broken away at the tie so as to illustrate the form of a seat at which the rail is attached to the tie; Fig. 3 is a cross section through the tie, taken adjacent to one of the rails; and Fig. 4 is a plan showing a frog, together with the means which I employ for holding the frog in position on the rails.

Referring more particularly to the parts, 1 represents a railway tie which, as illustrated in Fig. 3, has the general form of a box girder. The tie comprises side plates 2, of channel form, set opposite to each other and parallel. To the upper flanges 3 of these channels, a face-plate 4 is riveted as shown, and to the lower flanges 5 a base-plate 6 is riveted as shown. On the upper face of the face-plate 4 near the position at which the rails 7 are to be attached, I form seats 8. These seats are substantially rectangular in shape, as illustrated at the right in Fig. 2, and formed by means of a plurality of parallel V-shaped grooves 9 which extend at right angles to each other in such a way that a plurality of pyramidal projections or teeth 10 are formed, projecting upwardly from the face of the plate. The rails 7 are secured at these seats by means of chairs 11, the form of which is very clearly illustrated in Fig. 1. The bodies of these chairs lie closely against the web and flange of the rail, and the outer portions of the chairs are formed into bases 12, the lower faces whereof are formed with a plurality of teeth 13 which are adapted to be received in the grooves 9.

At the proper points through the seats 8 I provide slots or bolt openings 14 through which through bolts 15 pass, which effectually secure the chairs to the ties. In this way the rails are securely clamped between the chairs in the manner indicated in Fig. 1. By reason of the interlocking teeth formed on the meeting faces of the chairs and the base-plate, the bolts 15 are relieved of any lateral strain tending to spread the rails, and there is no possibility whatever for the rails to work loose in the chairs.

In Fig. 4 I illustrate a frog 16 of common form. In attaching such a frog to a rail, according to the present invention, I provide special chairs 17 between the points 18 of the frog, which chairs are double-ended; that is, they grasp the rails at both ends of the chair. Under the chairs 17 seats are provided similar to the seats 8 described above. These chairs 17 may be considered as double chairs, as both of their ends operate to hold the rail. Opposite the chairs 17, single chairs 19 are employed which hold the outer sides of the rails, as indicated.

The base-plate 6 of the tie is of special form, tending to prevent a longitudinal shifting of the tie in the roadbed; that is, a shifting laterally of the roadbed. For this purpose, the base-plate is preferably bent so as to present a plurality of transversely disposed downwardly projecting V-shaped corrugations or ribs 22, which extend, as shown, transversely of the tie, and between these ribs the plate is fastened to the flanges 5 by means of suitable rivets 23. When a tie of the construction described is laid in the roadbed, the ballast extends into the grooves 24 between the corrugations 22, and effectually prevents the tie from shifting laterally of the roadbed.

By reason of the slots 14, the position of the chairs may be adjusted to the position of the rails; they also allow for the slight enlargement of gage necessary on curves.

The chairs 11 are provided with ribs 20, which are disposed between the bolts and

project above the same. These ribs operate to protect the bolts from injury by the wheels in replacing a derailed truck.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A railway tie having a face-plate with seats for the rails, said seats consisting of a plurality of pyramidal projections, and chairs bolted to said seats and adapted to clamp the rails therebetween, said chairs having under faces with pyramidal projections engaging said first projections and preventing the shifting of said chairs upon said seats.

2. A railway tie consisting of a pair of oppositely disposed channel irons, a base-plate riveted to said channel irons and having transversely disposed corrugations formed therein, said base-plate being attached to said channel irons between said corrugations, a face-plate attached to said channel irons at the upper edges thereof and having seats formed on the upper face thereof, said seats having a plurality of pyramidal projections thereupon, and chairs being adapted to grasp the rail and having pyramidal projections on the under faces thereof engaging said first projections, said chairs being bolted to said face-plate.

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

HENRY EDWARD MATTHEWS.

Witnesses:
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W. F. MOORE.