No. 747,460. PATENTED DEC. 22, 1903.

H. F. MILLER.

RAILWAY TRACK.

APPLICATION FILED JULY 3. 1903.

NO MODEL. 2 SHEETS—SHEET 1.

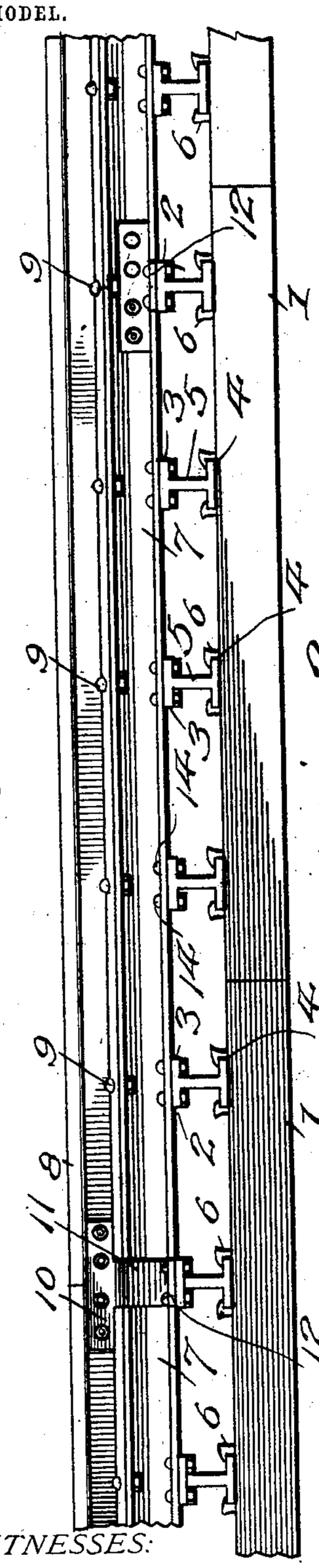

Fig. 1.

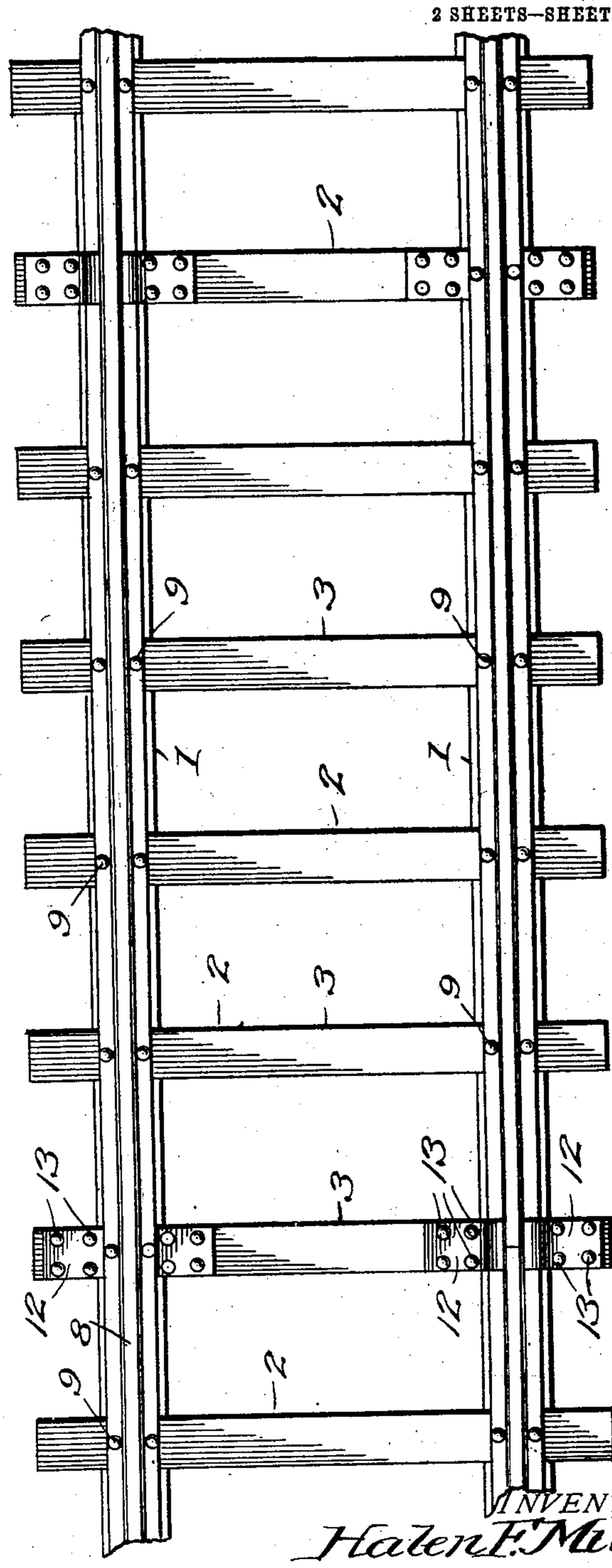

Fig. 2.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

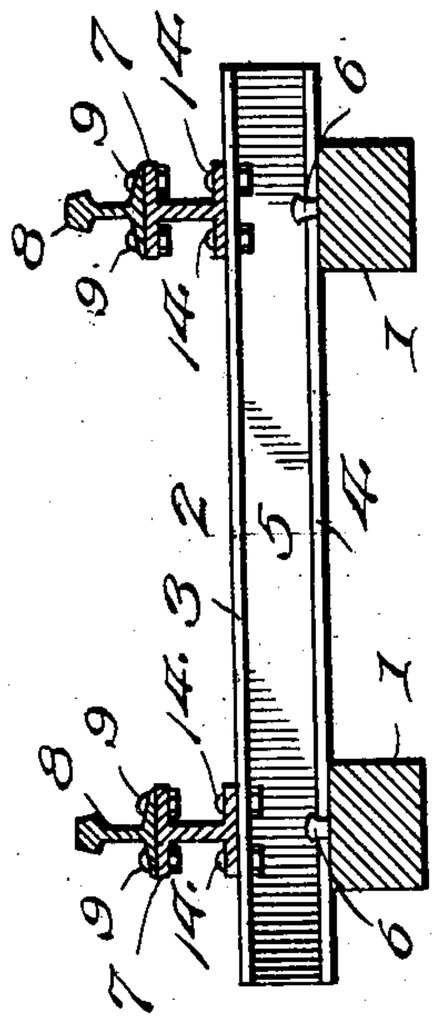


Fig. 6.

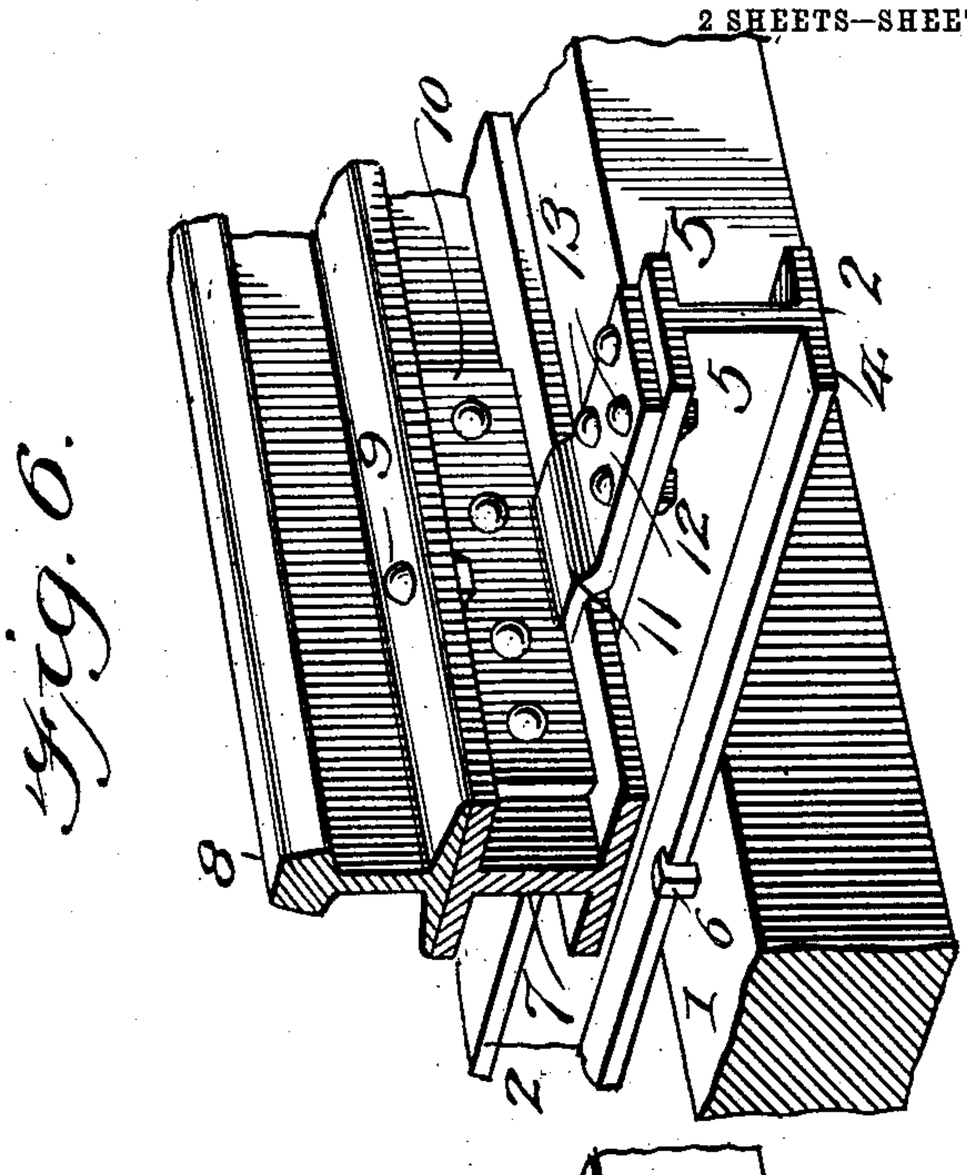


Fig. 3.

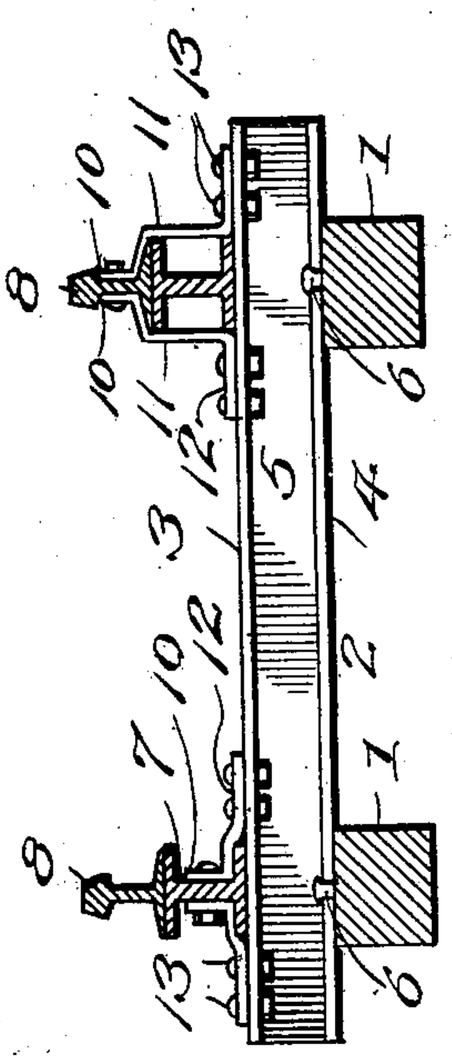
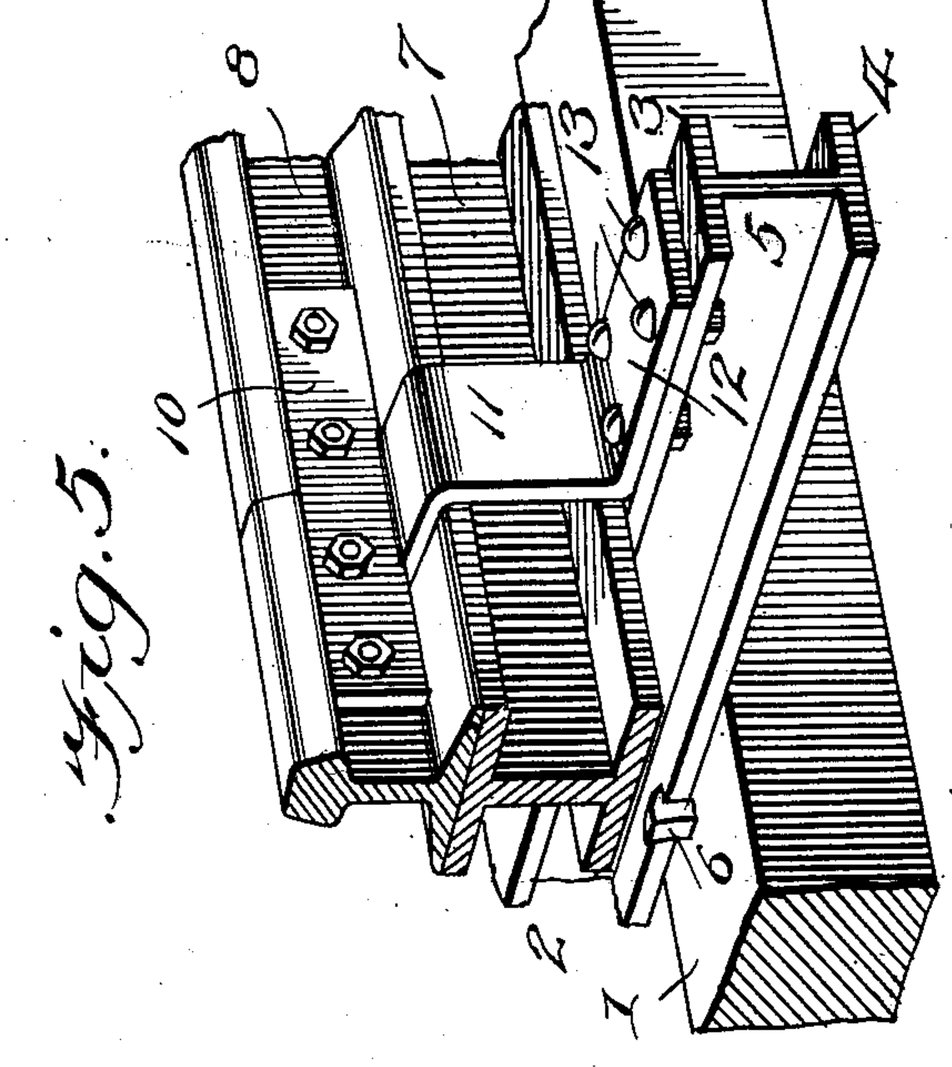


Fig. 5.



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UNITED STATES PATENT OFFICE.

HALEN F. MILLER, OF BELLEVILLE, MICHIGAN.

RAILWAY-TRACK.

SPECIFICATION forming part of Letters Patent No. 747,460, dated December 22, 1903.

Application filed July 3, 1903. Serial No. 164,157. (No model.)

To all whom it may concern:

Be it known that I, HALEN F. MILLER, a citizen of the United States, residing at Belleville, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Railway-Tracks, of which the following is a specification.

This invention relates to railway-tracks, one of the objects being to provide a construction of road-bed which will afford a solid and unyielding support for railway-trains, and thereby effect a saving of a large percentage of the usual wear and tear on the rolling-stock. The character of the construction hereinafter described is also such that the necessity of frequent examination and repair is obviated, thus effecting a material saving in expense to the railroad company. By the construction hereinafter described the sinking or bending downward of the extremities of the rails at the rail-joints is prevented and the spreading of the rails, and consequent derailment of the cars, is also overcome.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a road-bed constructed in accordance with the present invention. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section showing the manner of connecting the T-rails to the I-beam girder-rails to the cross-ties. Fig. 4 is also a cross-section showing the manner of connecting the T-rails to the I-beam girder-rails. Fig. 5 is an enlarged detail perspective view showing the rail-joint and one of the combined fish-plates and braces, and Fig. 6 is also a detail perspective view showing one of the combined fish-plates and braces applied to the joint of the girder-rails.

Like reference-numerals represent corresponding parts in all figures of the drawings.

In constructing a road-bed in accordance with the present invention use is made of parallel stringers 1, extending lengthwise of the road-bed in parallel relation to each other, as shown in Figs. 1 and 2. These stringers are preferably of wood and rest directly upon the ground, being held in place by ballast of any character. The cross-ties rest directly on the stringers 1, and each tie (indicated at 2) is composed of a section of an I-beam comprising the upper and lower sets of flanges 3 and 4, respectively, and the vertical connecting-web 5. These cross-ties are firmly connected to the stringers 1 by means of headed spikes 6, as shown.

Extending lengthwise of the track and arranged directly over the stringers 1 are girder-rails 7, each consisting of an I-beam similar to that from which the cross-ties are constructed. The girder-rails 7 rest directly on the cross-ties 2 and form a support for the T-rails or track-rails 8, which are of the ordinary construction, the width of the flanges of the girder-rails being the same as the width of the base-flanges of the track-rails, as clearly shown in the drawings, and the said track or T rails being secured directly to the girder-rails by means of bolts or rivets 9.

The girder-rails and T-rails are so laid as to overlap and break joint with each other, or, in other words, the joints of the T-rails are located at points midway between or intermediate the joints of the girder-rails, so that when the T-rails and girder-rails are bolted together they mutally support each other and prevent the bending down of the rails at the points where the joints occur.

At each joint of the T-rails I employ a pair of combined fish-plates and braces, 10 designating the fish-plates proper and 11 representing the brace members thereof, which are in the form of extensions leading outward from the lower edges of the fish-plates proper and bent to embrace the flanges of the T-rails and girder-rails, as shown in Figs. 5 and 6, the outer portions 12 of the braces lying flat against the upper surfaces of the cross-ties and being bolted, riveted, or otherwise secured thereto, as shown at 13. In Fig. 6 the combined fish-plate and brace is shown applied to the meeting ends of one of the girder-rails, while in Fig. 5 the same is shown applied to a joint of the T-rails, the only difference between Figs. 5 and 6 residing in the fact that the brace 11 is made longer, so as to extend from the T-rails downward across the girder-rails. From the foregoing it will be seen that by the overlapping arrangement of the girder-rails and the combination there-

with of the combined fish-plates and braces the track-rails are, in effect, braced at each end and at the center. The track-rails are firmly united by means of bolts or rivets to the girder-rails at numerous points, and the girder-rails are firmly secured to the cross-ties by means of bolts or rivets 14 at all points where the girder-rails cross the ties. It will also be apparent that by means of the construction described the stringers, ties, girder-rails, and track-rails all mutually support and brace each other, thus producing a firm, solid, and unyielding road-bed over which trains may pass without the usual jar at the joints, and thus effecting a material saving in the rolling-stock and the cost of frequent examination and repair of the track. In some cases for the sake of economy the I-beam girder-rails may rest directly on wooden cross-ties and be fastened thereon by means of spikes driven into the ties.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A railway-track comprising parallel wooden stringers, I-beam cross-ties secured thereto, I-beam girder-rails secured to the cross-ties, and T-rails supported on the girder-rails and having their base-flanges bolted to the top flanges of the girder-rails, substantially as described.

2. A railway-track comprising I-beam cross-ties, I-beam girder-rails supported thereon, T-rails supported on the girder-rails, and combined fish-plates and braces securing the T-rail joints and bolted to the ties, substantially as described.

3. A railway-track comprising I-beam cross-ties, I-beam girder-rails supported thereon, T-rails supported on the girder-rails and bolted thereto, and combined fish-plates and braces connecting the meeting ends of the girder-rails and bolted to the ties, substantially as described.

4. A railway-track comprising I-beam cross-ties, I-beam girder-rails supported thereon, T-rails supported on the girder-rails and arranged to lap joint therewith, and combined fish-plates and braces connecting the meeting ends of the T-rails and girder-rails and bolted to the ties, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HALEN F. MILLER.

Witnesses:
FRANK H. MILLER,
JAMES R. TAYLOR.