

(No Model.)

3 Sheets—Sheet 1.

F. X. GEORGET.
RAILWAY GUARD RAIL.

No. 369,446.

Patented Sept. 6, 1887.

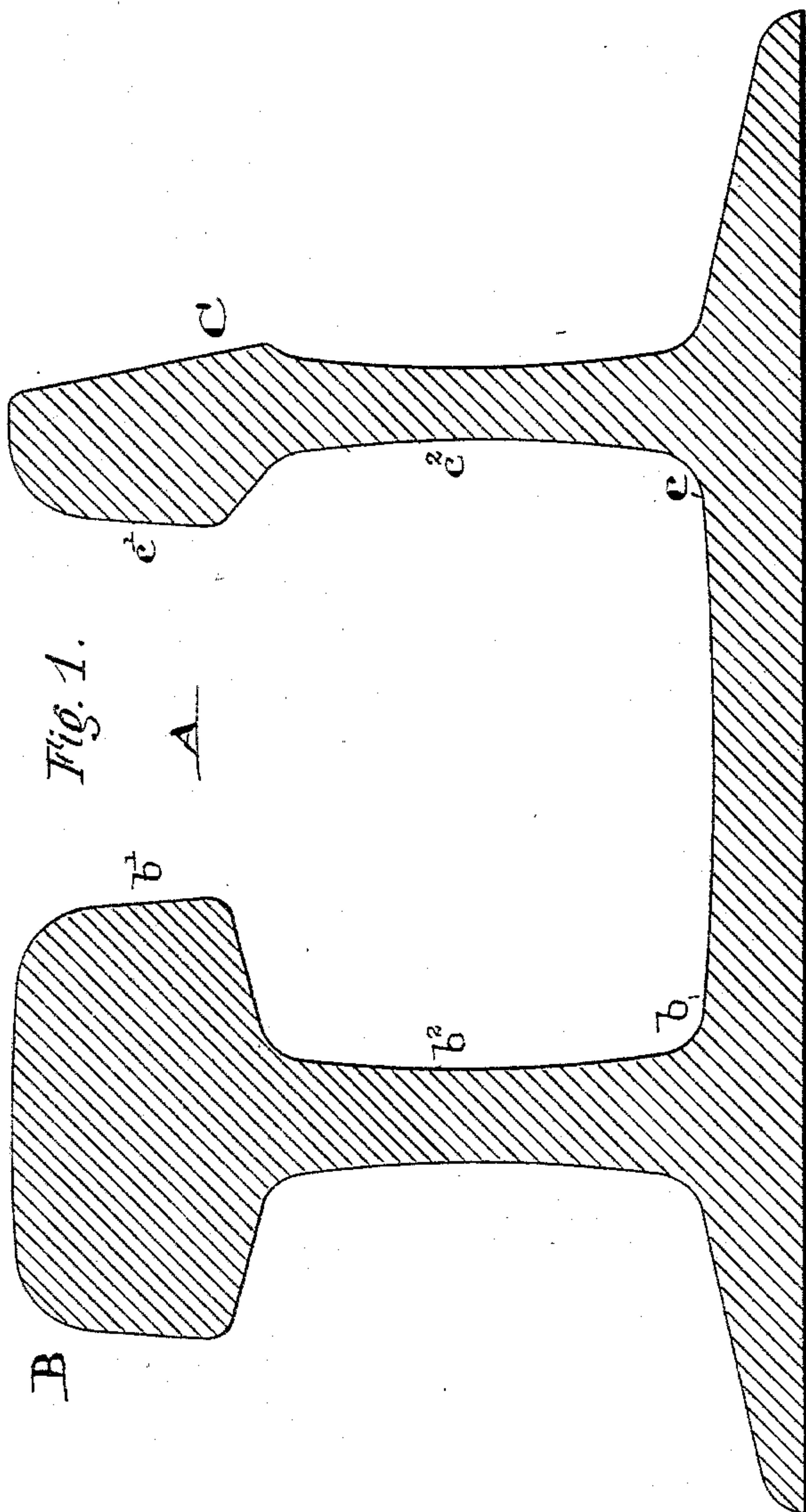


Fig. 1.

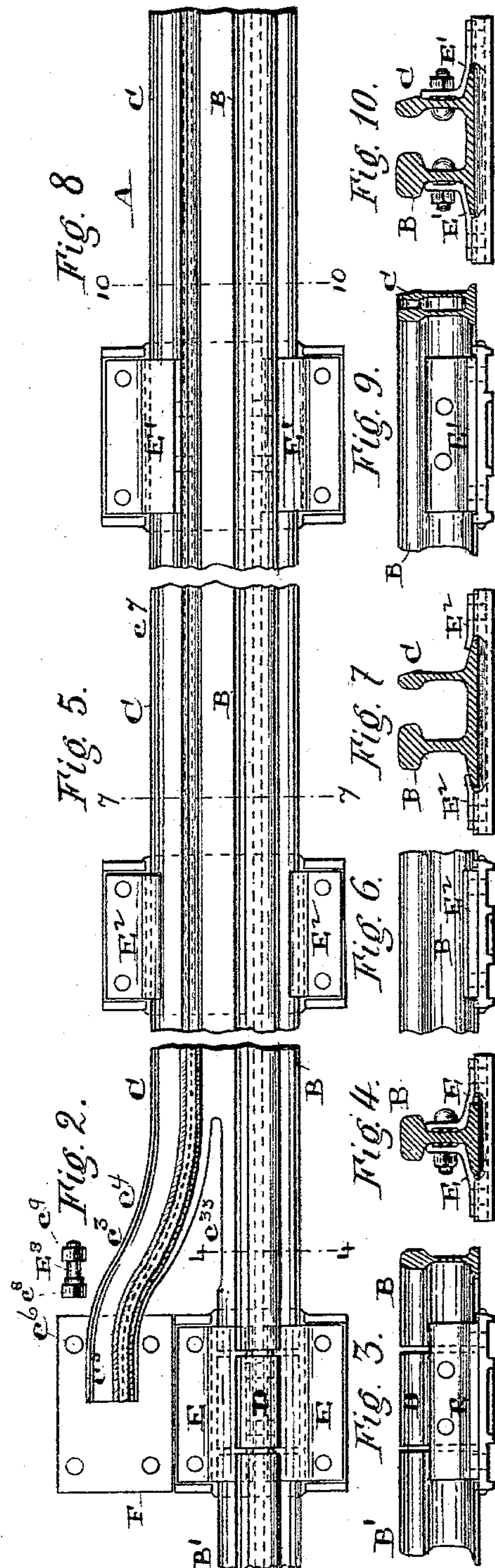


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

Witnesses:

J. W. Hoke.
W. Benson.

Inventor:
Francois X. Georget
by C. R. Moody atty

(No Model.)

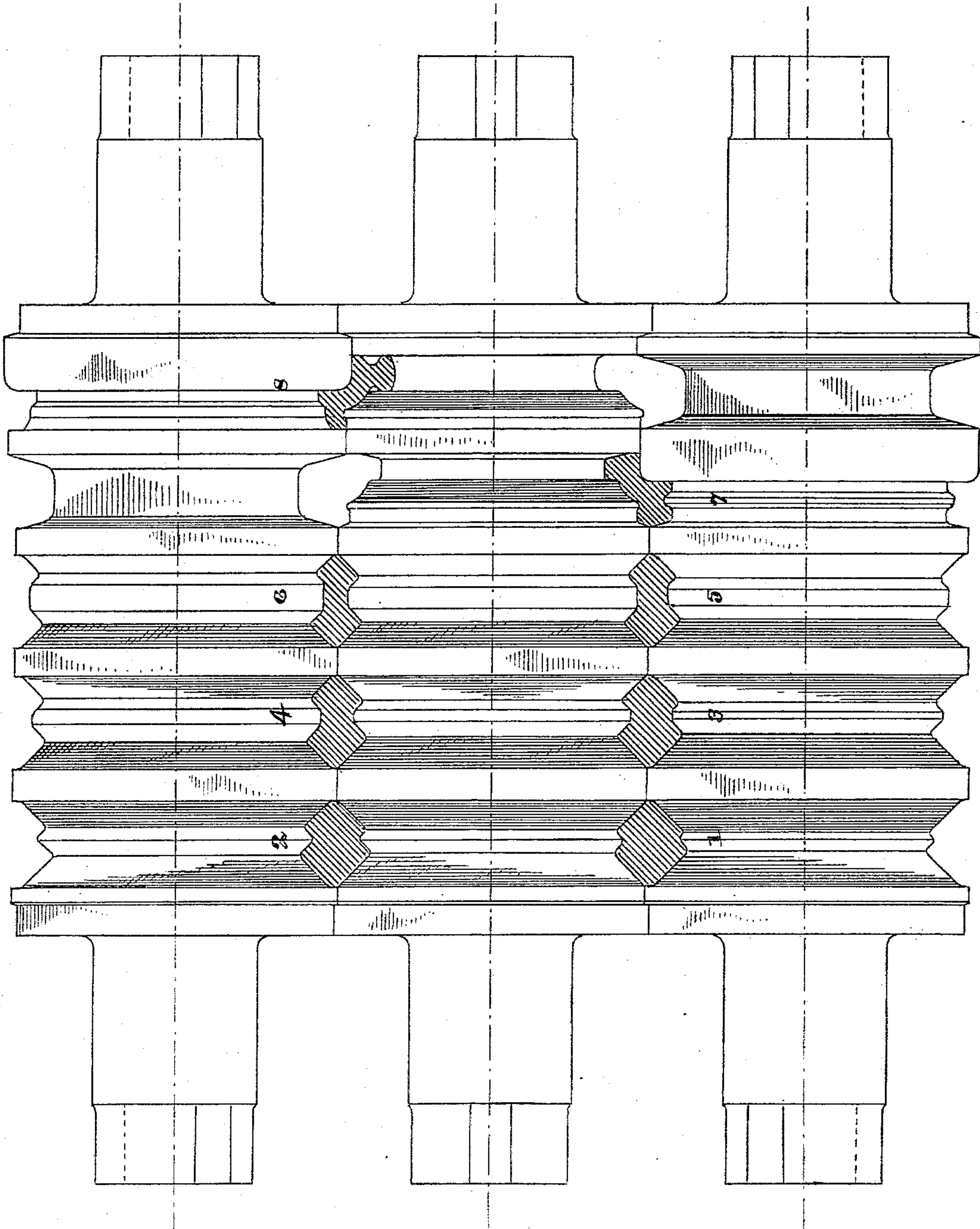
3 Sheets—Sheet 2.

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Fig. 11.



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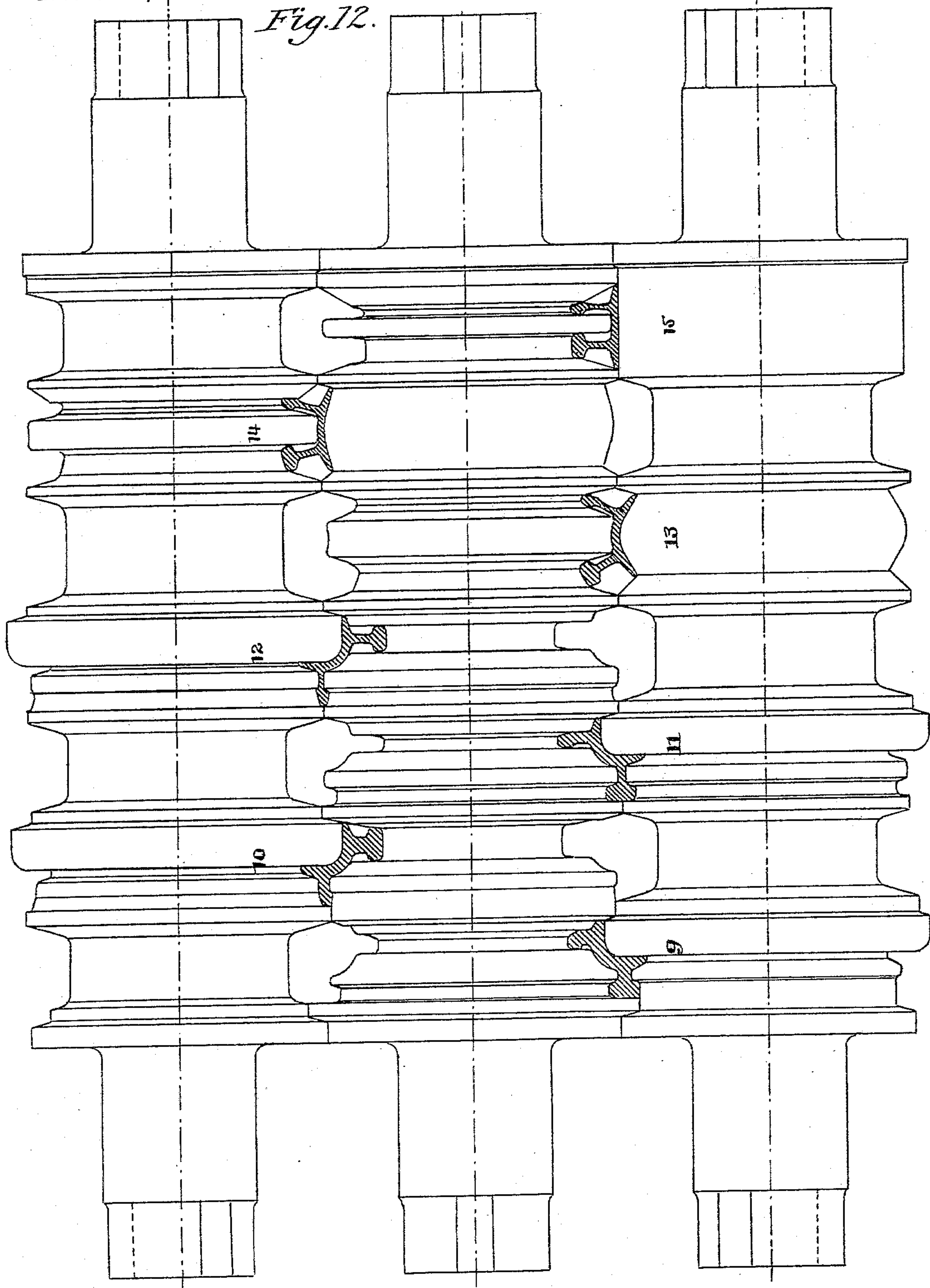
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

FRANÇOIS X. GEORGET, OF ST. LOUIS, MISSOURI.

RAILWAY GUARD-RAIL.

SPECIFICATION forming part of Letters Patent No. 369,446, dated September 6, 1887.

Application filed April 23, 1886. Serial No. 199,973. (No model.)

To all whom it may concern:

Be it known that I, FRANÇOIS X. GEORGET, of St. Louis, Missouri, have made a new and useful Improvement in Railway Guard-Rails, of which the following is a full, clear, and exact description.

This improvement is a new article of manufacture—namely, a guard-rail made in one piece with the main rail alongside it, the guard-rail part at the ends opening away from the main-rail part, and preferably having a top which projects beyond the web toward the main rail.

Other features of the improvement will be hereinafter specified.

In the annexed drawings, making part of this specification, Figure 1 is a cross-section of the double rail. Fig. 2 is a plan of one end of the double rail, together with the rail-joint, of which the double rail is a part. Fig. 3 is a side elevation from the outer side of the rail-joint. Fig. 4 is a cross-section on the line 4 4 of Fig. 2. Fig. 5 is a plan of a portion of the double rail, being a portion at one side of its center. Fig. 6 is a side elevation of the part shown in Fig. 5. Fig. 7 is a cross-section on the line 7 7 of Fig. 5. Fig. 8 is a plan of the central portion of the double rail. Fig. 9 is a side elevation of the part shown in Fig. 8, and Fig. 10 is a cross-section on the line 10 10 of Fig. 8. Figs. 11 and 12 are introduced into the drawings to indicate the shapes successively assumed by the metal in being formed into the improved guard-rail, starting with the shape shown in cross-section in pass 1, Fig. 11. It is next formed into the shape shown in pass 2, Fig. 11, and so on, terminating with the shape shown in pass 15, Fig. 12. Fig. 1 is upon a much larger scale than the remaining figures.

The same letters of reference denote the same parts.

A represents the improved construction. The part B, representing the main rail, saving that its foot *b* is united with the foot *c* of part C, being that part of the construction which represents the guard-rail, and is constructed in the ordinary manner, and is designed to occupy the same place in the track that is now occupied by the ordinary line of rail. As represented, the part B is of a familiar

type, having the top or tread *b'* of the rail much wider than the web *b''*.

A prominent feature of the guard-rail part C is its top *c'*, which projects laterally beyond the web *c''*, in the direction of the main-rail part B. The top *c'*, made in this manner, provides for the lateral wear which comes from the car-wheel flange, and which, if the top did not project beyond the web, would result in an inset in the upper inner corner of the guard-rail part, and this, when formed, is the occasion of trouble. The two parts *b c*, being united as described, form a broad substantial base for the entire construction.

The two parts B and C, united as described, do not take as much metal as when they are separated, not as many fastenings are required, and the construction generally is more substantial and stable than when the guard-rail part is made a separate piece.

Another feature of the construction is the separating of the ends *c''* of the guard-rail part C farther from the main-rail part B than the central portion, *c'*, of the part C is separated. In connection with this the foot *b c* of the construction is slit substantially as represented in Fig. 2, the slit *c'''* extending inwardly beyond or as far as the separated end *c''*. The particular mode of constructing the end *c''* becomes a matter of especial importance when the improved guard-rail is used in connection with my improved adjustable railway-bedding, described in pending application for Letters Patent.

The various rails composing the line of rail in the construction referred to are each fastened longitudinally at the center, leaving their ends free to expand and contract each way from the center of the rail, and the rail-joints are made as shown in Figs. 2, 3, a short piece, D, of rail being introduced into the line of rail between the long rails B B', and held in place by means of the fish-bars E E, which also lap upon the ends of the rails B B', holding the rail ends laterally and vertically, but leaving them free to expand and contract longitudinally. This being the case, provision must be made for the longitudinal movement of the guard-rail part C, which, being in one piece with the main-rail part B, expands and contracts with it. Now, if the end *c''* of the

guard-rail part is simply inclined away from the part B, and at its extremity is pointing away therefrom, as is customary with the present guard-rails, the part C cannot be confined laterally at the ends c^3 , for in that event the end c^3 would draw sidewise against the rail-fastening and either the rail or its fastening would give away. Accordingly, the end c^3 , after being bent away at c^4 from the part B, and sufficiently to insure the entrance between the parts B and C of the car-wheel flange, its extreme end, c^5 , is then extended parallel with the main line of rail, and also, in practice, beyond the end of the main-rail part B, and to come opposite the short-rail piece D, Fig. 2. The fastening for the end of the part C is then applied thereto opposite the end c^5 , at, say, c^6 , Fig. 2, and as the only other fastenings for the part C are applied along its straight main portion c^7 —such as the fish-bars E' at its center, and E^2 between its center and end c^3 —the part C is left free to move longitudinally with the part B. The fastening E^3 , employed at the point c^6 , is in the form of the bolt shown in side elevation in Fig. 2. The bolt when in place passes down through the perforation c^6 in the tie F, with its head c^8 bearing upon the foot of the end c^5 and held downward, so as to bind the rail

vertically and laterally to the tie by means of its nut c^9 , which, when in place, bears upward against the top of the tie.

I claim—

1. A railway guard-rail made in one piece with the main rail, the guard-rail part at its ends being opened away from the main-rail part, substantially as described.

2. A railway guard-rail made in one piece with the main rail, the guard-rail part at its ends being inclined away from and ultimately being extended parallel with the main-rail part, substantially as described.

3. A railway guard-rail made in one piece with the main rail, the guard-rail part at its ends being opened away from the main-rail part, and having a top which projects beyond the web toward the main-rail part, substantially as described.

4. The combination of the double rail A, slit at c^{10} , the tie F, and the bolt E^3 , substantially as described.

5. The combination of the parts B C, united and shaped as described, with the fish-bars E' E^2 E^3 and the tie F, as described.

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Witnesses:

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