

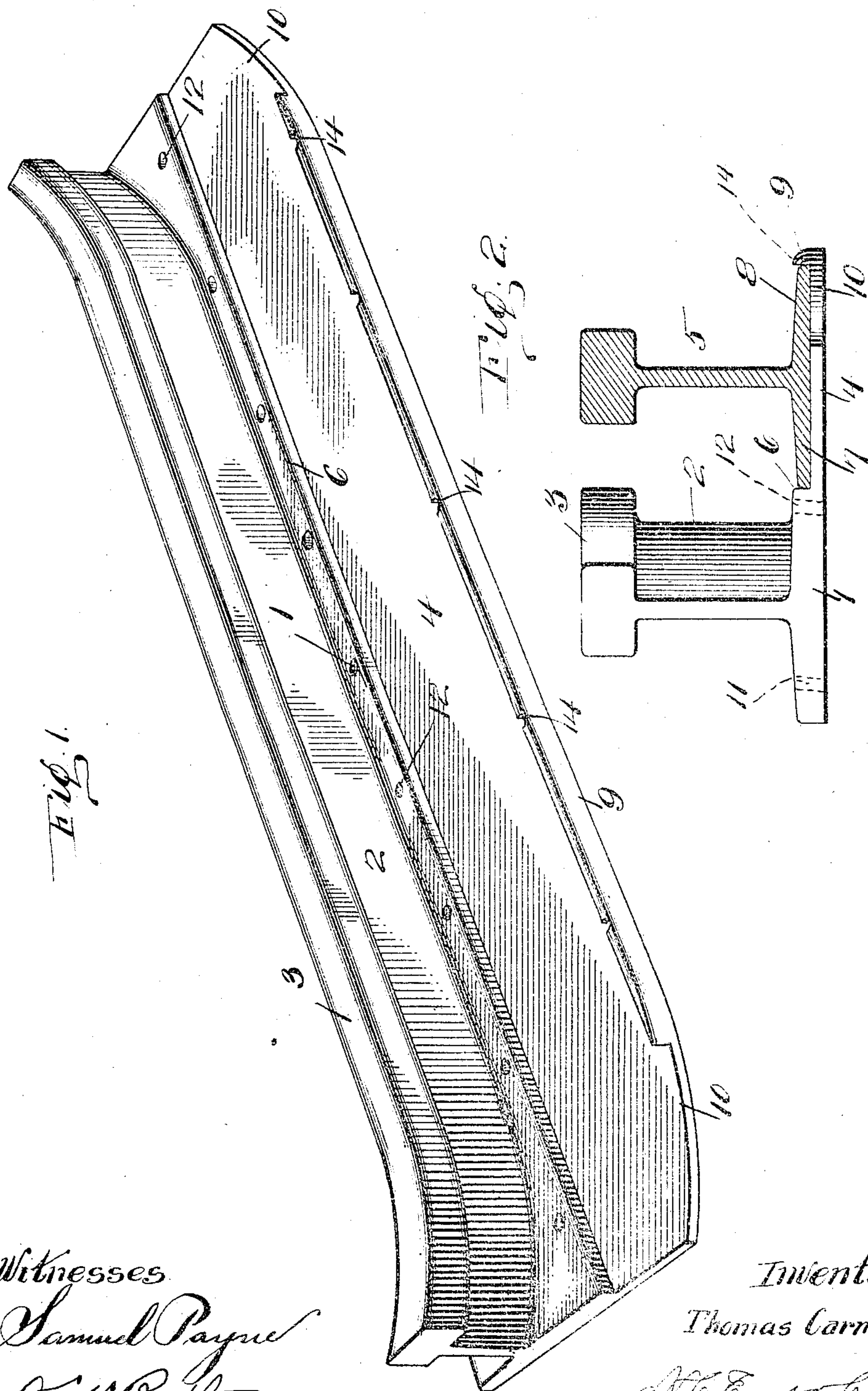
No. 837,036.

PATENTED NOV. 27, 1906.

T. CARMICHAEL.

GUARD RAIL.

APPLICATION FILED JULY 20, 1906.



Witnesses  
Samuel Payne  
D. H. Butler

Inventor  
Thomas Carmichael  
by A. C. Evans & Co.  
Attorneys



# UNITED STATES PATENT OFFICE.

THOMAS CARMICHAEL, OF CARNEGIE, PENNSYLVANIA.

## GUARD-RAIL.

No. 837,036

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed July 20, 1906. Serial No 327,037.

*To all whom it may concern:*

Be it known that I, THOMAS CARMICHAEL, a citizen of the United States of America, residing at Carnegie, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Guard-Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in guard-rails; and the invention has for its object the provision of positive and reliable means in connection with a guard-rail for firmly holding said rail  
15 contiguous to a main rail, whereby said guard-rail cannot become displaced should the flange of a wheel impinge the same or should any abnormal pressure be brought to bear upon the guard-rail.

20 Another object of this invention is to provide a guard-rail which will form a seat for its associate main rail, thereby dispensing with rail-plates where my improved guard-rail is used.

25 My invention resides in a guard-rail having a base-flange extension adapted to lie under a main rail, forming a seat for said rail, while the main rail prevents the guard-rail from being accidentally displaced.

30 The detail construction of my improved guard-rail will be presently described, illustrated, and then specifically pointed out in the claims.

35 Referring to the drawings forming part of this specification, like numerals of reference designate corresponding parts throughout both the views, in which—

40 Figure 1 is a perspective view of my improved guard-rail; and Fig. 2 is an end view of the same, illustrating a main rail in connection therewith.

45 My guard-rail comprises a base 1, a web portion 2, and a head or tread 3. The base 1 upon its one side is provided with an extension 4, which is approximately one-half the thickness of the base 1, said base being approximately twice the thickness of an ordinary rail-base, whereby a main rail 5, placed upon the extension 4, will be the same height  
50 as the guard-rail. This construction provides a shoulder 6 the entire length of the guard-rail, which is parallel relative to the main rail 5 and serves to brace the rail 5 by the base-flange 7 engaging said shoulder.  
55 The opposite base-flange 8 of the rail 5 is braced by a rib or flange 9, carried by the

edge of the extension 4, said rib or flange extending almost to the ends of the guard-rail.

The ends of the guard-rail are bent or curved outwardly from the main rail 5, and in order that the rib or flange 9 will not interfere with the main rail 5 I remove the rib at the ends of the extension 4, as at 10, but I maintain the shoulder 6 parallel to the main rail, whereby said shoulder and the rib 9 will  
60 firmly hold the main rail 5.

To secure the guard-rail and main rail to ties or sleepers, I provide the base 1 with spike-openings 11 and 12 and the rib or flange 9 with openings 14, a suitable number  
70 of openings being provided to accommodate spikes and insure a positive fastening of the guard-rail to ties.

The novel construction of my improved guard-rail provides a main-rail seat which  
75 will prevent the rails moving or becoming displaced with relation to one another.

I do not care to confine myself to the length, size, or minor details of construction, as such changes in the construction as are  
80 permissible by the appended claims may be resorted to without departing from the spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

85 1. A guard-rail comprising a base, a web, and a tread, and a lateral extension carried by the base and extending the length of the latter and being of less thickness than said base, forming a longitudinal shoulder at one  
90 marginal edge of said base, and an upwardly-extending flange at the outer end of said extension, substantially as described.

2. A guard-rail comprising a base, a web, and a tread, and an extension projecting laterally from the base and being of less thickness than said base whereby a longitudinal  
95 shoulder is formed along one marginal edge of the base, and a marginal flange at the outer edge of said base, the said flange being notched in its upper edge, as and for the purpose described. 100

3. A guard-rail comprising a base, a web, and a tread, the base having a plurality of apertures therethrough, and an extension  
105 projecting from one edge of said base and being of less thickness than the base whereby to form a longitudinal shoulder adjacent said apertures, the extension adapted to receive a main rail, and said openings adapted to receive spikes securing both the main rail and  
110 the guard-rail to cross-ties.

4. A one-piece guard-rail comprising a base, a web, and a tread, and a main-rail-receiving extension projecting laterally from the base and being of less thickness than the
- 5 base, and a marginal flange on the outer edge of said extension, substantially as shown and described.

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

THOMAS CARMICHAEL.

Witnesses:

MAX H. SROLOVITZ,  
A. J. TRIGG