

C. A. ALDEN.
GUARD RAIL.
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934,784.

Patented Sept. 21, 1909.

Fig. 1.

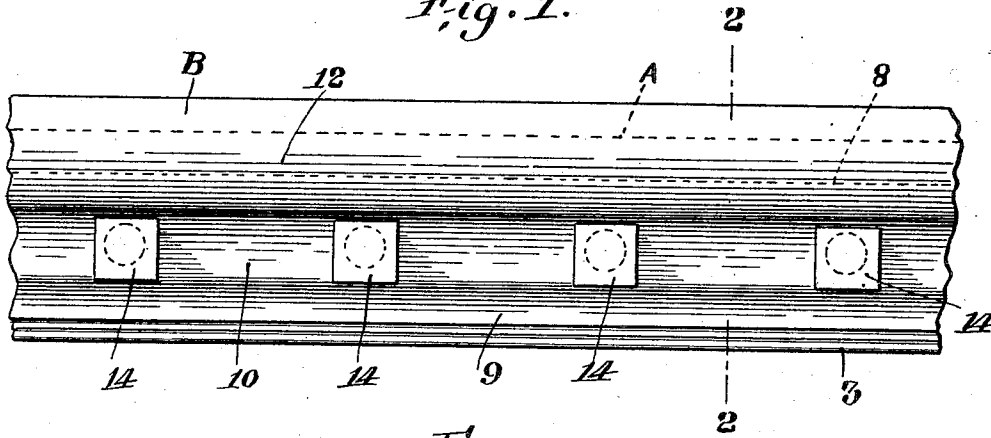
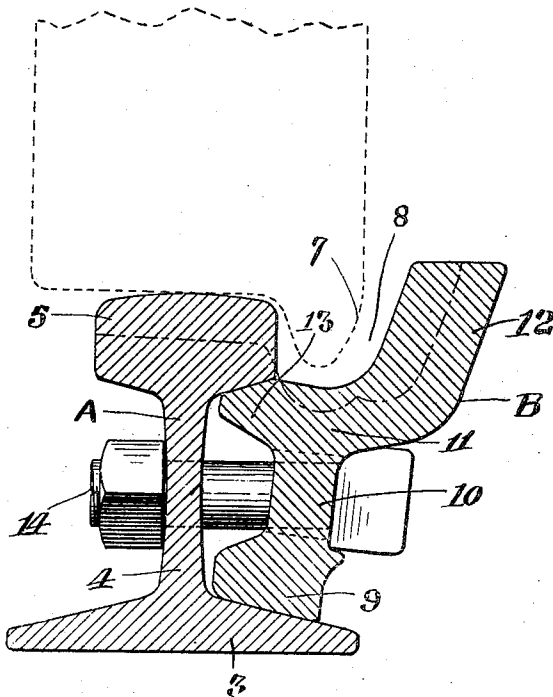


Fig. 2.



WITNESSES

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GUARD-RAIL.

934,784.

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To all whom it may concern:

Be it known that I, CHARLES A. ALDEN, a citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Guard-Rails, of which the following is a specification.

This invention relates to guard rails for railroad track rails.

10 The object of the invention is to provide a guard rail of novel, simple and efficient construction, adapted to be supported by the track rail and having provision whereby the desired strength of the guard rail and the
15 excess metal to compensate for wear is attained with a minimum amount of metal, as will be hereinafter fully described and particularly pointed out in the claims.

20 In the drawings: Figure 1 is a side elevation of a section of a railroad rail provided with a guard rail embodying my invention. Fig. 2 is a transverse section thereof on line 2—2 of Fig. 1, showing the lower portion of a car wheel and its flange by dotted lines,
25 and showing also by a dot-and-dash line the contour of the upper portion of the track and guard rails after the same have been worn down by the engagement of car wheels and their flanges therewith.

30 A designates the track rail, and B the adjacent guard rail. The main rail, A comprises the base 3, the vertical web 4, and the head 5, and is of usual and well known construction.

35 In Fig. 2 there is shown by dotted lines the lower portion of a car-wheel and its flange in the position in which it runs normally upon the main or track rail A. The car wheel flange 7 runs in a flange-way 8 one
40 side wall of which is formed by the track rail head 5, as shown.

The guard rail B comprises the base portion 9, the substantially vertical web portion 10 rising from the base portion 9, the floor
45 portion 11 forming the floor of the flange-way 8 and supported by the web portion 10, and the head portion 12 rising from the floor portion 11 and forming the other side wall of the flange-way 8.

50 The web portion 10 is arranged directly below the flange-way 8 and in the same vertical plane therewith, as shown. The inner portion 13 of the floor portion 11 is fitted against the under side of the rail head 5 and
55 the base portion 9 is made wider than the web portion 10 and is seated upon the track

rail base 3, and the parts 9 and 13 are drawn firmly into engagement with the track rail A by bolts 14 which extend through the web portions 4 and 10 of the track rail A and guard rail B respectively, and firmly secure
60 the guard rail to the track rail.

The head portion 12 of the guard rail B is made wider than the web portion 10 and sufficiently so to compensate for the wear indicated by the dot-and-dash line in Fig. 2
65 without weakening the guard rail below its required strength.

In order to construct the guard rail B of the minimum amount of metal and yet provide for the wear thereof as hereinbefore
70 described, without weakening the guard rail below the required strength, the location of the parts and the size thereof with respect to each other are very important, and particularly the location of the web portion 10
75 of the guard rail directly under the flange-way 8, as this enables the employment of a comparatively narrow web portion 10 and permits the floor portion 11 of the flange-way 8 to be worn deeply by the car wheel
80 flange 7 without materially weakening the guard rail.

I claim:—

1. The combination with a track-rail comprising a base, a vertical web and a head forming one side wall of a wheel flange-way; of a guard-rail wholly supported by the track-rail and comprising a floor portion engaging the under side of the track-rail head and extending outwardly therefrom
85 and forming the bottom of said flange-way, a guard portion rising from the outer portion of the floor portion and forming the other side wall of said flange-way, a base portion supported on the base of the track-rail, and a web portion below and in the same
90 vertical plane with said flange-way and connecting said floor portion with said base portion; and means for securing said track-rail and said guard-rail together.

2. The combination with a track-rail comprising a base, a vertical web and a head forming one side wall of a wheel flange-way; of a guard-rail comprising a floor portion engaging the under side of the track-rail head and extending outwardly therefrom
105 and forming the bottom of said flange-way, a guard portion rising from the outer portion of the floor portion and forming the other side wall of said flange-way, a base portion supported on the base of the track-rail,
110

and a web portion narrower than the guard
portion below and in the same vertical plane
with said flangeway and connecting said
floor portion with said base portion; and
5 means for securing said track-rail and said
guard-rail together.

3. The combination with a track-rail com-
prising a base, a vertical web and a head
forming one side wall of a wheel flangeway;
10 of a guard-rail comprising a floor portion
engaging the under side of the track-rail
head and extending outwardly therefrom
and forming the bottom of said flangeway,
a guard portion rising from the outer por-
15 tion of the floor portion and forming the

other side wall of said flangeway, a web por-
tion below and in the same vertical plane
with said flangeway and connecting said
floor portion with said base portion, and a
base portion wider than said web portion 20
and formed on the bottom of said web por-
tion and seated on the base of the track-rail;
and means for securing said track-rail and
said guard rail together.

In testimony whereof I affix my signature 25
in presence of two witnesses.

CHARLES A. ALDEN.

Witnesses:

S. I. HARPER,
E. M. WARE.