

No. 767,779.

PATENTED AUG. 16, 1904.

D. F. VAUGHAN.

GUARD RAIL.

APPLICATION FILED APR. 6, 1904.

NO MODEL.

Fig. 1.

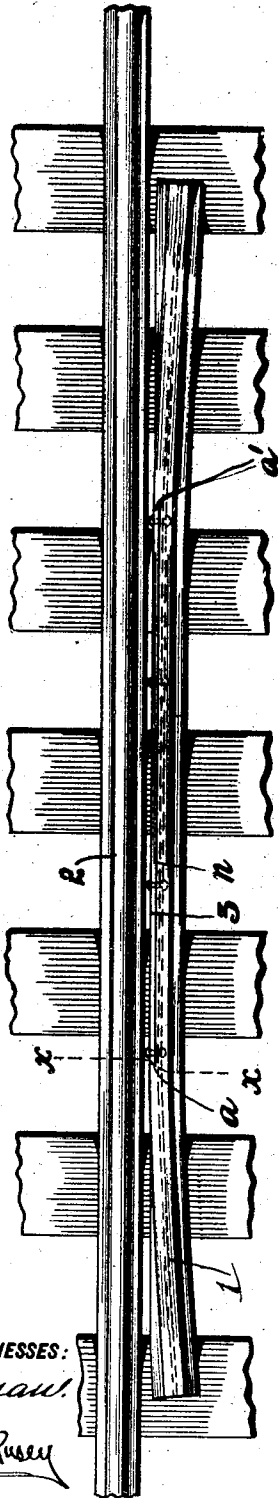


Fig. 3.

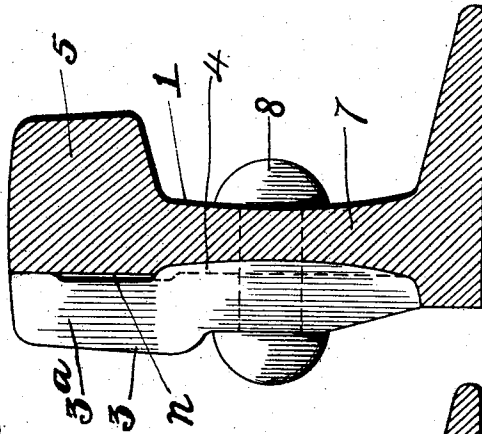
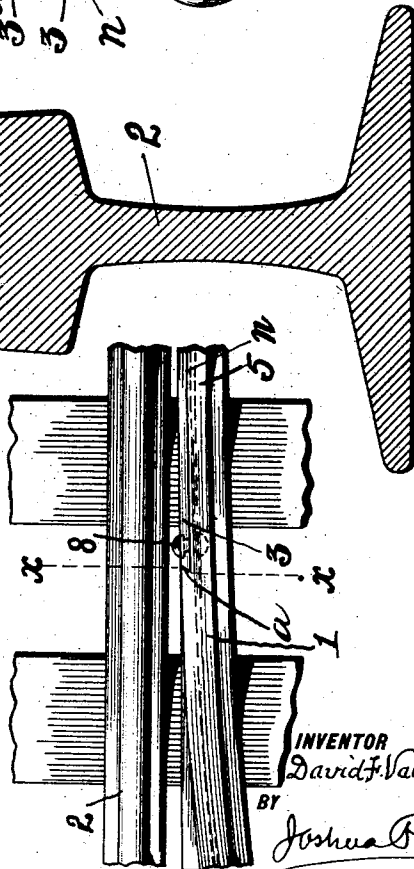


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID F. VAUGHAN, OF HADDONFIELD, NEW JERSEY.

GUARD-RAIL.

SPECIFICATION forming part of Letters Patent No. 767,779, dated August 16, 1904.

Application filed April 6, 1904. Serial No. 201,845. (No model.)

To all whom it may concern:

Be it known that I, DAVID F. VAUGHAN, a citizen of the United States, residing at Haddonfield, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Guard-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to an improvement upon the guard-rail which is the subject-matter of United States Letters Patent No. 752,428, granted to me February 16, 1904.

The leading feature of the improvement and invention consists in cutting away the side of the head of the guard-rail for the portion of its length corresponding with that where the wear comes against the rail, so as to form an elongated notch, and setting into the latter a hard-metal plate, such as the plate 3 of said patent, which plate is bolted or otherwise secured to the web of the rail.

Another feature of the invention relates to a particular form of the end walls of said notch and corresponding therewith the ends of the part of said plate, whereby a special advantage is secured, as hereinafter described.

In the accompanying drawings, Figure 1 is a plan view; Fig. 2, a plan view of a portion of Fig. 1; Fig. 3, a greatly-enlarged section on line *x x*, Figs. 1 and 2.

Referring to said drawings, in which I use the same numerals to denote corresponding parts, as in said patent, 1 is the guard-rail, 2 the main or track rail, 3 the hard-metal plate of substantially the same general form in cross-section as that of said patent—that is, having the part 3^a, that sets against the cut-away side of the head 5 of the rail, and the projection 4, through which passes the bolt or rivet 8 for securing the plate to the web 7 of the rail.

In carrying out my present improvement I cut away the side of the head of the guard-rail, as between the points *a a'*, Fig. 1, to form a notch *n*, and I make the hard-metal plate 3 of a length to correspond with that of said notch and pass the plate into the latter and then secure the same by rivets 8 or it may be bolts to the web of the rail. Pref-

erably I make the end walls *a a'* of the notch *n* at an acute angle to the body of the rail and correspondingly bevel the ends of the plate 3, as seen in Figs. 1 and 2, in the nature of a dovetail joint, so that when the plate is in place any tendency of outward displacement of the latter will be counteracted. Usually, however, in this form of the device I would make the said plate of substantially the same length as the length of the notch *n* and then spring the plate into place in the latter. This construction aids in maintaining the plate against both longitudinal and lateral displacement. It is not, however, absolutely essential that the end walls of the notch *n* be of the angular shape described and the ends of the hard-metal plate of complementary shape, as the said end walls may be at right angles to the body of the rail or at not too great an obtuse angle, in which cases, although the plate would be maintained against longitudinal displacement, the rivets or bolts 8 alone would be relied upon to prevent lateral displacement.

It will be observed that in addition to economy of material I obtain another advantage by thus setting in the hard-metal plate 3 at a portion only of the guard-rail, to wit: The thrust of a car-wheel in passing said guard-rail is largely distributed in a longitudinal direction along said rail, and were the hard-metal plate extended the entire length of the guard-rail there would be liability of creeping of the said plate along said rail and a consequent shearing of the rivets or bolts securing said parts together; but by the insetting of the hard-metal plate when such longitudinal thrust occurs the said plate abuts against the end walls *a* or *a'*, which form positive stops against such creeping.

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

1. A guard-rail having the elongated notch in the side of the head thereof, and a hard-metal plate extending into and filling said notch, and secured to the web of said rail, substantially as described.

2. A guard-rail having the elongated notch in the side of the head thereof, the end walls of said notch being at an acute angle to the

body of the rail, and the hard-metal plate extending into said notch and having the beveled ends interlocking with said angular end walls of said notch, said plate being secured
5 to the said rail, substantially as and for the purpose set forth.

In testimony whereof I have hereunto af-

fixed my signature this 31st day of March, A. D. 1904.

DAVID F. VAUGHAN.

Witnesses:

GEO. L. ROTE,

WALTER C. PUSEY.