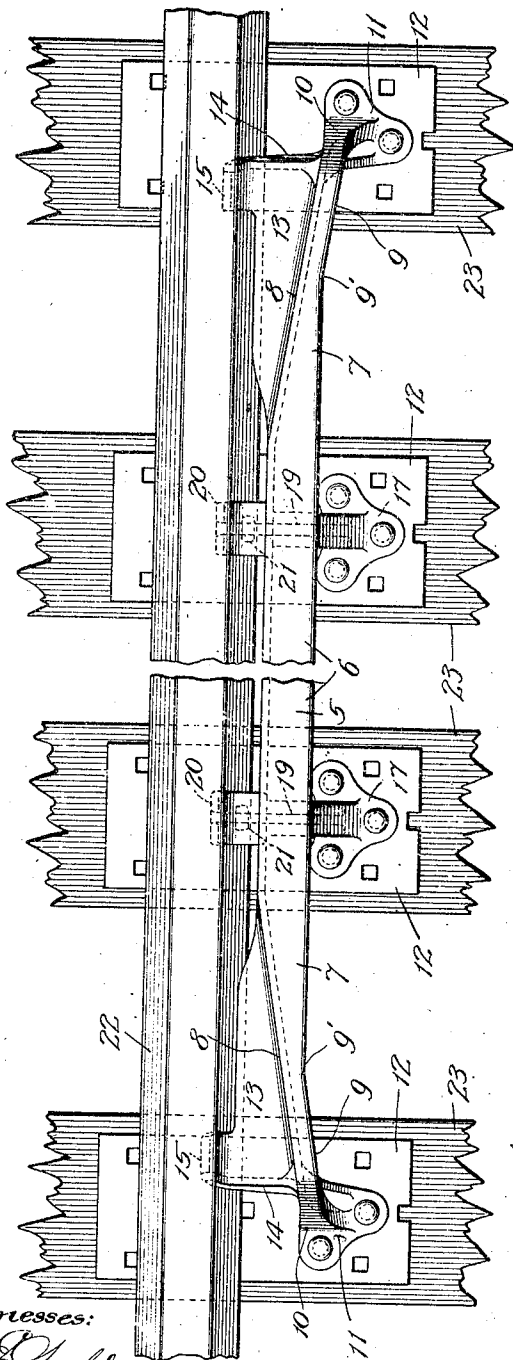


1,056,469.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.

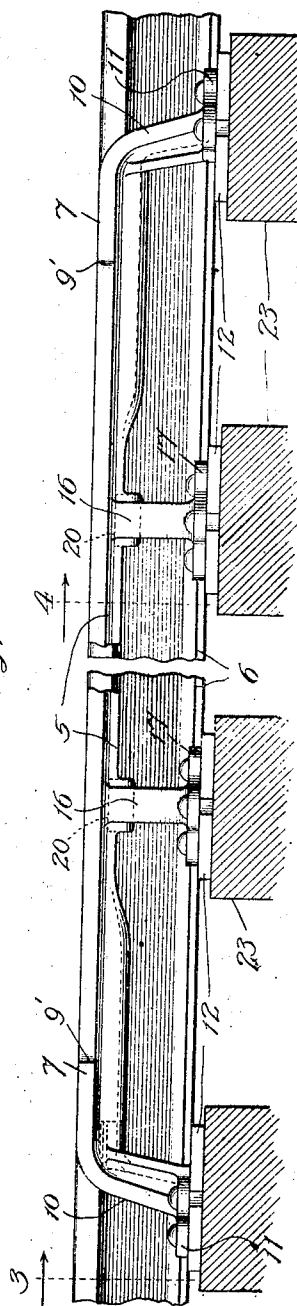
Fig. 1.



Witnesses:

Ed. J. Taylor.
Chas. H. Bull.

Fig. 2.



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E. N. STROM.

GUARD RAIL.

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1,056,469.

Patented Mar. 18, 1913.

2 SHEETS-SHEET 2.

Fig. 3.

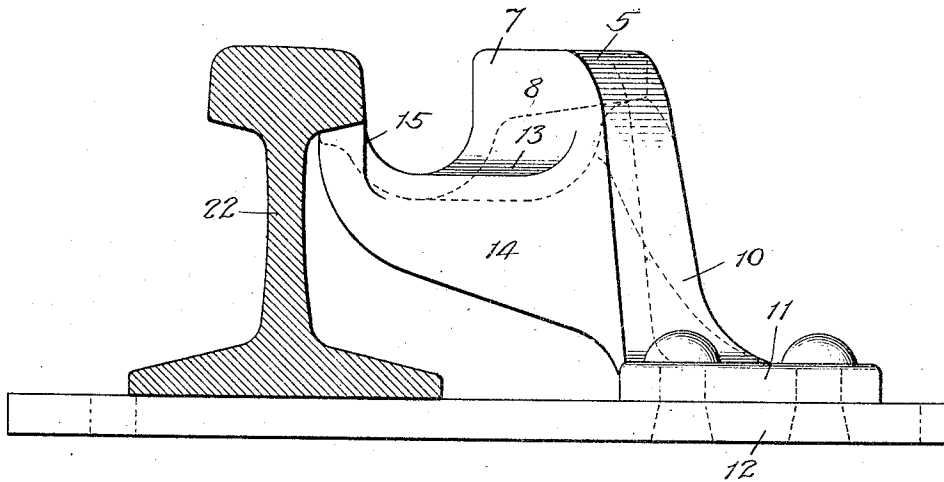
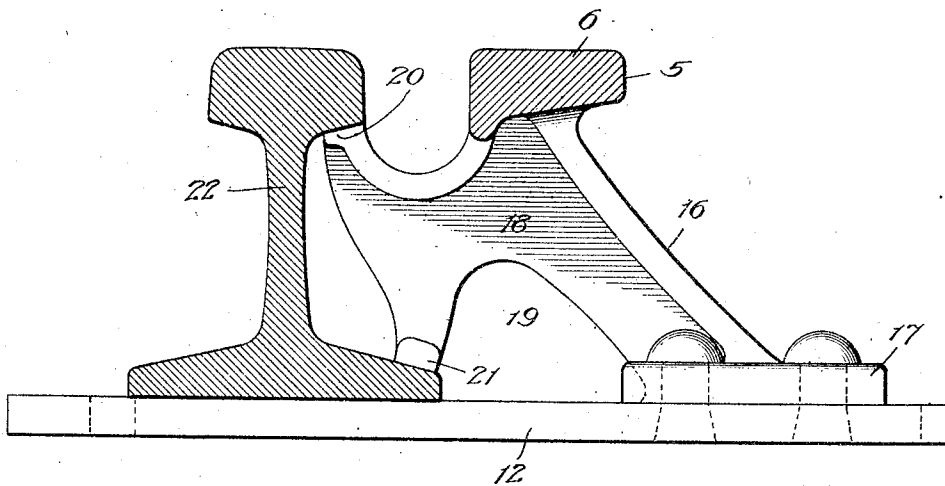


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GUARD-RAIL.

1,056,469.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 6, 1912. Serial No. 735,286.

To all whom it may concern:

Be it known that I, EUGENE N. STROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Guard-Rails, of which the following is a specification.

The object of my invention is to provide an improved construction of guard-rail, whereby it shall be rendered comparatively light in weight but strong, and shall serve to rigidly hold against lateral and vertical movements the main rail to which it is applied.

In the accompanying drawings, Figure 1 is a broken plan view of a section of railway-track showing my improved guard-rail applied to a main rail; Fig. 2 shows the same by a broken view in side elevation; Fig. 3 is an enlarged section on line 3, Fig. 2, and Fig. 4 is an enlarged section on line 4, Fig. 2.

My improvement enables the guard-rail to be cast, preferably of manganese-steel, in one piece, though I prefer, for the sake of economy, to provide the tie-plates of cheaper metal and, therefore, to fasten the guard-rail to them; but this may be done, as hereinafter described, in a manner to render the plates practically integral with the remainder of the structure.

The guard-rail is a casting, preferably of manganese-steel, formed of a relatively-wide intermediate portion 6 with end-portion 7, 7 tapering toward the extremities, as shown, by inclining their inner faces 8 outwardly and their outer faces 9 correspondingly from the points 9^a. The ends are deflected downwardly to form legs 10, 10 terminating in expanded feet 11 with perforated toes, through which to rivet the feet to tie-plates 12 of relatively-cheap metal. Formed on the inner faces of the end-portions 7, to extend inwardly therefrom, are foot-guards 13 terminating at their outer wider ends in webs 14 extending from the inner faces of the legs 10 and expanded at their inner ends into rail-bracing heads 15. At intervals along the intermediate portion 6 are formed thereon, to extend inclinedly from it, in the outward direction, legs 16 terminating in feet 17, like the feet 11, through which to rivet them to tie-plates 12, each leg 16 forming a part of a rail-brace including the leg, a web 18 extending

inwardly from it, recessed in its under side, as shown at 19, and expanded at its upper and lower ends into heads 20 and 21. It is practicable, of course, but not so desirable, for the reason stated, to cast the tie-plates as integral parts of the structure, instead of riveting them to the feet 10 and 17, as shown.

In use, my improved guard-rail is applied to a main rail 22 to bring its top-portion on a level with or even above the top of the main-rail head, with the tie-plates on the ties 23 and spiked down thereon through openings in the plates at both sides of the main-rail. In the operative position of the guard-rail, the legs 10 form its end-supports, the heads 15 bear against the adjacent under side of the main-rail head as braces therefor and form with the legs combined end-supports and rail-braces with the foot-guards as integral parts thereof. The legs 16 form intermediate spaced supports for the guard-rail, and the heads 20 and 21 bear, as rail-braces, respectively, against the adjacent under side of the main-rail head and the adjacent upper side of the main-rail flange, the heads being connected by webs with the legs 16 and forming therewith combined supports for the guard-rail and braces for the main-rail.

The guard-rail structure, which is in itself comparatively light in weight and very strong, rigidly reinforces the main rail against vertical and laterally-outward movements. Moreover, its skeleton-like structure renders it open underneath, thus preventing the lodgment of snow and the accumulation of ice between it and the main rail.

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

1. A one-piece guard-rail formed with end-legs and intermediate combined legs and main-rail braces for supporting the guard-rail in position relative to a main rail.

2. A one-piece skeleton-like guard-rail formed with combined end-legs and main-rail braces and at intervals with intermediate combined legs and main-rail braces.

3. A one-piece cast skeleton-like guard-rail comprising an intermediate portion and outwardly-tapering end-portions with foot-guards on said end-portions, combined end-legs and main-rail braces with reinforcing webs at the outer ends of the foot-guards and braces, and combined web-connected

legs and main-rail braces extending at intervals from said intermediate portion.

4. A guard-rail of substantially the thickness of the head of the main-rail with which it coöperates and having legs depending from it at intervals provided with transversely extending webs and forming a

large open space beneath the body of the guard-rail.

EUGENE N. STROM.

In presence of—
A. C. FISCHER,
L. HEISLAR.