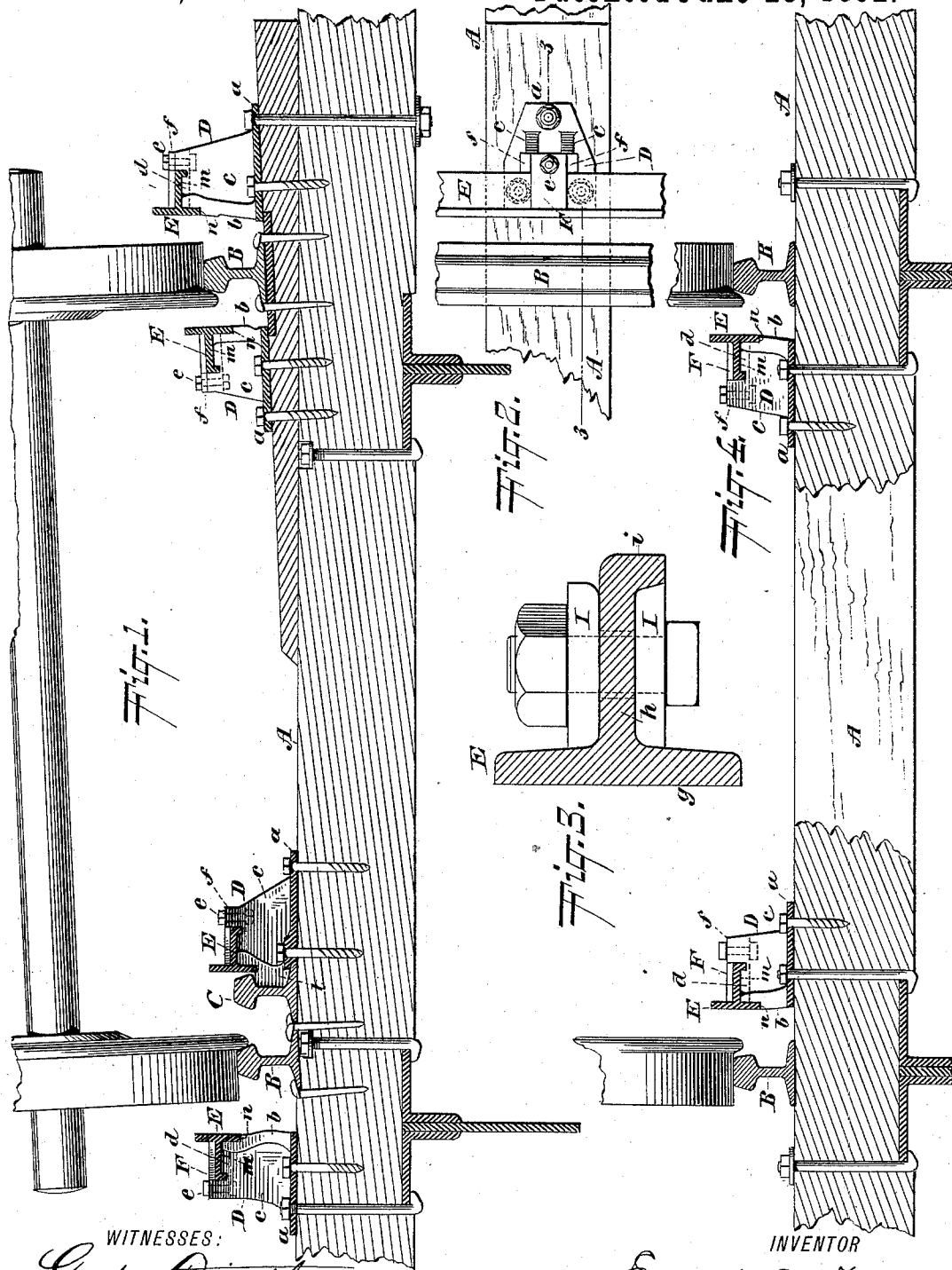


(No Model.)

E. A. TRAPP.
GUARD RAIL FOR RAILWAYS.

No. 477,713.

Patented June 28, 1892.



WITNESSES:

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EDWARD A. TRAPP, OF JERSEY CITY, NEW JERSEY.

GUARD-RAIL FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 477,713, dated June 28, 1892.

Application filed October 1, 1891. Serial No. 407,371. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. TRAPP, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Guard-Rails for Railways, of which the following is a specification.

The invention relates to improvements in guard-rails for railways; and it consists, essentially, of a rail of J-iron form supported and secured by clip-plates upon chairs of novel construction secured to the customary ties, the tread of the J-iron guard-rail facing the usual T-rails. The guard-rail which is the subject of this specification may be provided at either or both sides of the usual track-rails, and it may be so supported on the chairs that its face may be vertical, as shown in the drawings, or arranged at an acute or obtuse angle to the horizontal plane of the track-rails.

In the construction of the guard-rails according to my invention there is a total absence of the present wooden rails, which obstruct the light when employed on elevated railroads and so rapidly decay, and I produce a structure which is durable, reliable, may be quickly applied, and possesses great strength. The guard-rails constructed in accordance with the present invention will not when used on elevated railroads materially obstruct the light and air, and this is a feature of importance. They are elevated from the usual ties and light and air may pass beneath and around them.

The invention will be more fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical transverse section through the road-bed of an elevated railroad, taken at a point through a turn or curve therein and showing the application of the new guard-rails and chairs thereto. Fig. 2 is a detached top view of a portion of said bed with the guard-rail and chair in position. Fig. 3 is an enlarged transverse section of the guard-rail, and showing particularly the application of plates on opposite sides thereof for connecting the meeting ends of said rails; and Fig. 4 is a vertical transverse section

through the road-bed of an elevated railroad, taken at a point where there is no curve or turn therein.

Referring to the accompanying drawings, A designates a tie supported upon beams or girders forming the frame of an elevated-railroad bed, and B B the usual rails, which are properly secured upon the ties. In Fig. 1 an inner T-rail C is provided along the inner side of the rail B, as is customary at the curves or turns in the road, this additional T-rail C being on the shorter side of the curve. Upon either or both sides of the track-rails B B are secured the metal chairs D, supporting the guard-rails E. The chairs D are secured to the ties A, and consist of the base-plate *a*, front standard *b*, braces *c*, and top *d*, the thickness of the latter being indicated by dotted lines. The tops of the chairs D receive the guard-rails E and the securing clip-plates F, the latter being held in place and prevented from turning by the bolts *e* and the ears *f f*, formed on the chairs and inclosing at opposite edges said plates F. The bolt *e* for each chair passes through the plate F and top *d*, as indicated by dotted lines, and, as will be observed, it is in convenient location to be applied or removed, as occasion may require. The chairs D are recessed along their front edges and top to receive and form a seat for the metal guard-rail E, which is substantially in the outline of the letter J. The tread *g* of the guard-rail iron E faces the car-wheels, being either parallel with the faces thereof, as shown, or arranged at an angle thereto, if preferred, while the web *h* and short arm *i* rest in the recess *m*, formed in the tops of the chairs D. The lower edge of the tread *g* of the rail E rests upon a shoulder *n*, formed on the front of the chairs D. It will thus be observed that the rails E are fully supported on the chairs D, that they are held down upon the said chairs by the clip-plates F, and that they are prevented from having any lateral movement in either direction by their tread *g* and short arm *i* fitting recesses or sockets in the chairs. The rails E are thus very securely held, and their elevation will depend upon the height of the chairs D, which, as may be noted in the drawings, will vary according to the conditions of the road-bed and the particular circumstances of their

use. The chairs D, which may be arranged along the inner side of the usual T-rail C employed at curves in the road, will be cast with the brace *t* protruding from its front *b* and entering the recess formed in the side of said rail, as shown in Fig. 1, in which position said brace will give the necessary support to said rail C and dispense with the usual braces now employed for this purpose. The chairs D at the inner side of the rail C thus operate as a brace for said rail and also a support for the J-iron rail E. At points where the ends of the rails E meet the joints will be covered by plates I, which will be bolted to the web of the rails E in a well-known manner, as shown in Fig. 3.

The guard-rails, with their chairs, constructed and arranged in accordance with my invention are durable and reliable, they obstruct the light and air to a minimum degree, and are not subject to the constant repairs

incident to the employment of the guard-rails now in general use.

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

1. A guard-rail, combined with the chairs supporting said rail, with the tread of the rail facing the usual track-rails, and the clip-plates bolted to said chairs and overlapping said guard-rail, substantially as and for the purposes set forth.

2. The J guard-rail, combined with the chairs having the recess to receive said rail, the clip-plate, and the ears on said chairs to retain said plate, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 30th day of September, A. D. 1891.

EDWARD A. TRAPP.

Witnesses:

CHAS. C. GILL,
ED. D. MILLER.