No. 664,042. Patented Dec. 18, 1900.

W. H. HILLYER.

METALLIC RAILWAY TIE.

(Application filed Mar. 23, 1900.)

(No Model.)

Fig. 1.

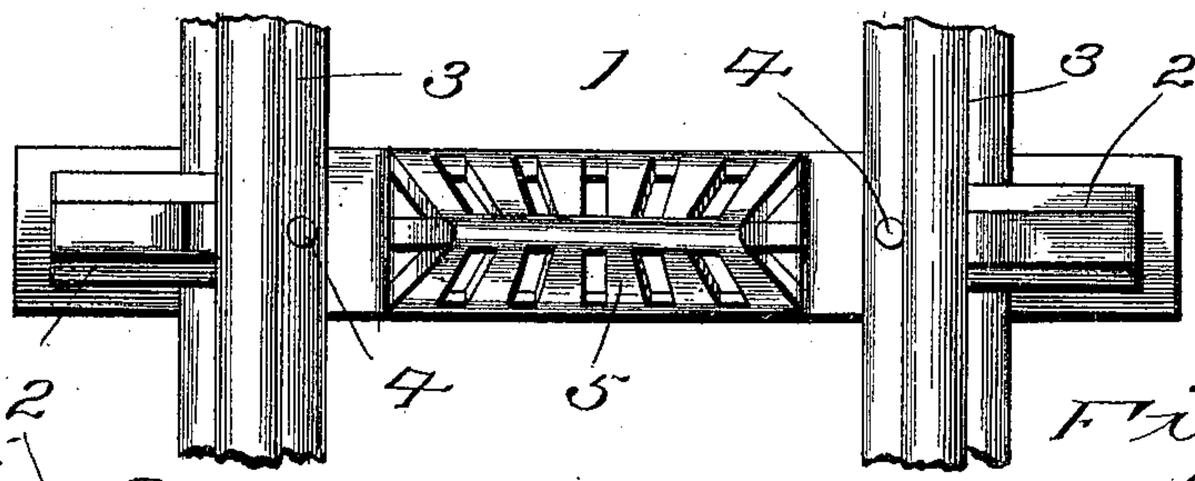

Fig. 6.

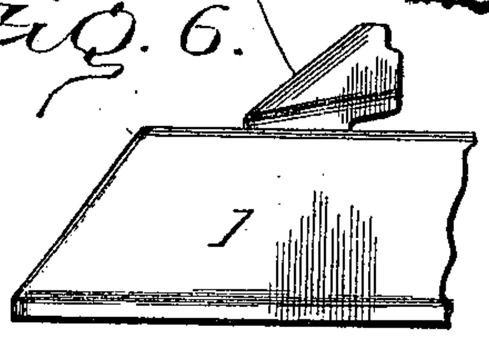

Fig. 2.

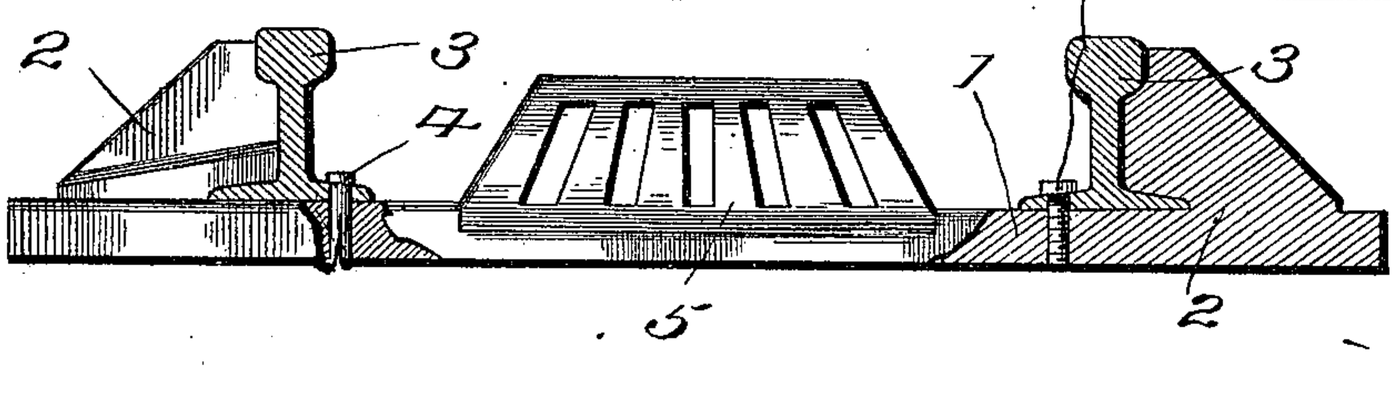

Fig. 7.

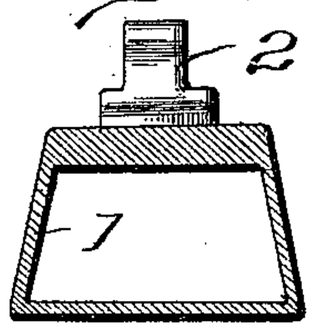

Fig. 4.

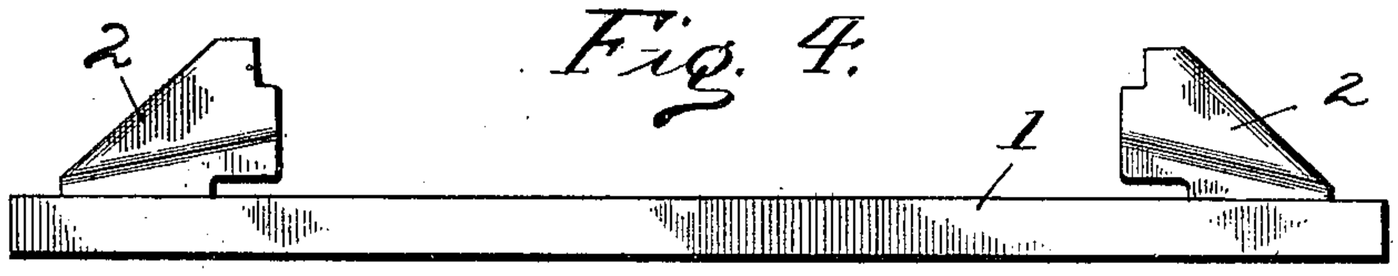

Fig. 3.

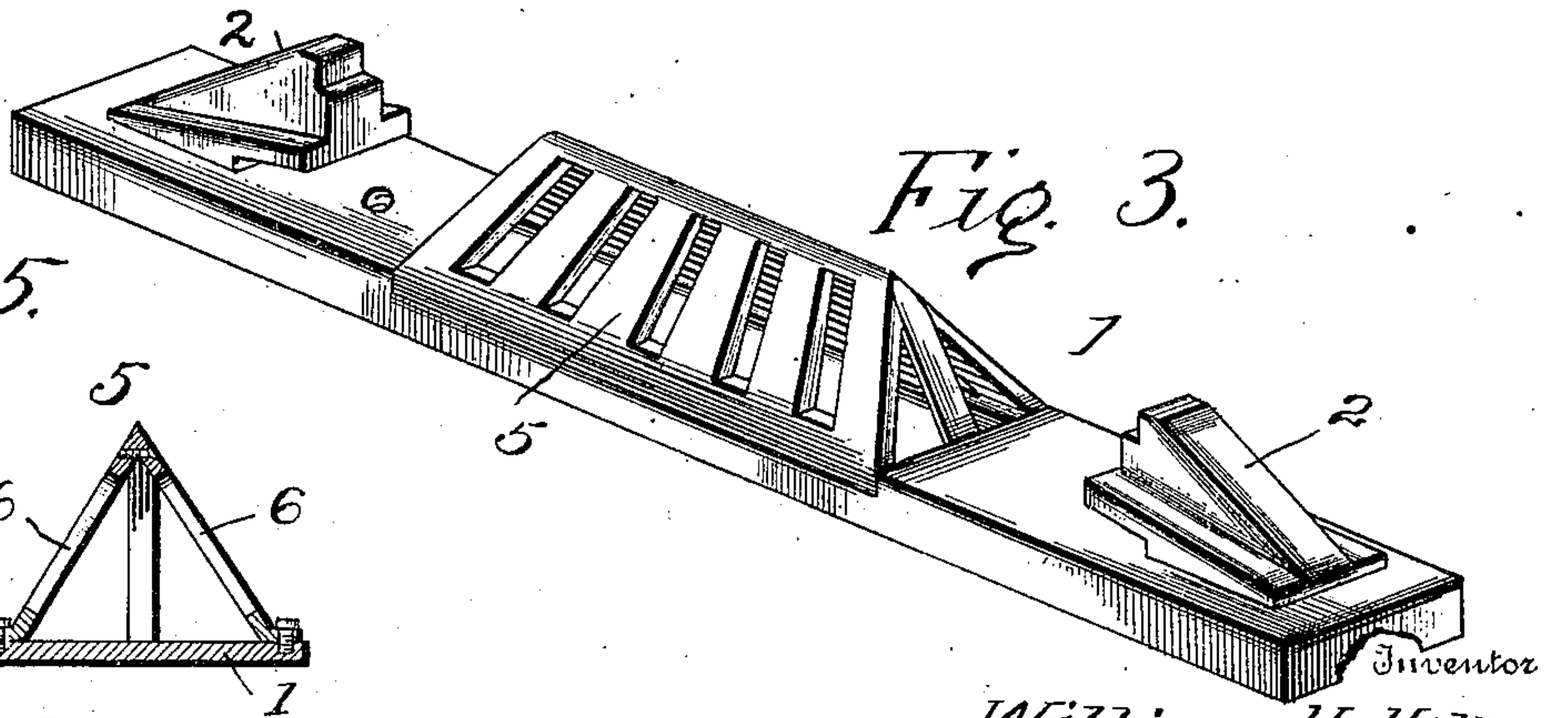

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. HILLYER, OF FREEPORT, OHIO.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 664,042, dated December 18, 1900.

Application filed March 23, 1900. Serial No. 9,939. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HILLYER, a citizen of the United States, residing at Freeport, in the county of Harrison and State of Ohio, have invented certain new and useful Improvements in Metallic Railway-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to railways, and more particularly to the ties and rail-fastenings, the primary purpose being to prevent persons from walking upon the ties, over bridges, trestles, cattle-guards, and the like, and as a result of the construction the tie is stiffened and braced and enabled to be made comparatively thin.

The invention also consists of the novel features, details of construction, and combination of the parts, which hereinafter will be more fully disclosed and finally claimed, and for this purpose and also to acquire a knowledge of the merits of the invention and the structural details of the means whereby the results are attained reference is to be had to the appended description and the drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a railway-tie and rails, showing the application of the invention. Fig. 2 is a front view thereof, the rails being in section. Fig. 3 is a perspective view of the tie. Fig. 4 is a side elevation of a tie formed with integral shoes and omitting the antitread device. Fig. 5 is a cross-section showing the antitread device separate from and attached to the tie. Fig. 6 is a side view of an end portion of a box-tie. Fig. 7 is a transverse section thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The tie 1 may be attached to a wooden tie when used supplementary thereto, and in this form will be comparatively thin; but when applied directly to the road-bed it must be thick and of sufficient weight and extent to form a firm support.

Lugs 2 are provided at the ends of the tie and may be applied thereto or formed therewith, the latter construction being preferred, as the formation of joints is obviated. These lugs bear against the outer sides of the rails 3 and prevent spreading thereof and are constructed to overlap the foot, underlap the head, and bear against the web and head of the rails. After the rails are seated upon the ties and brought up against the lugs 2 spikes 4 or like fastenings are passed through corresponding openings in the foot of the rails and ties to secure them in place.

Combined with the tie is an antitread device 5, whose sides slope upwardly to a sharp edge, which is of a length to effect the desired end without interfering with the car-wheels or any part of the train. The sharpened edge is intended to discourage track-walking by rendering the same hazardous and difficult. The antitread device projects to a suitable height to effect the object in view and is made hollow, the sides being open or slotted for lightness of construction and also to permit ballast to enter the device when embedding the ties. The form of the antitread device is not essential within the scope of the invention and it may be applied to any tie. In the preferable construction the tie, lugs, and antitread device are formed together of metal either by casting, forging, or in any manner found most advantageous.

As shown in Fig. 4, the tie and lugs are integral and are preferably formed of steel, and when in position the lugs are located exterior to the rails and prevent spreading thereof, thereby adapting the ties for curves. These lugs brace the rails and overlap the foot, underlap the head, and bear against the web and head thereof. The fastenings 4 may be threaded, spring-locking, or otherwise constructed to interlock with the tie.

The antitread device may be composed of plates 6 oppositely inclined and secured together at their upper ends, the lower ends having outer flanges 7, which are bolted or otherwise fastened to the tie. The upper meeting edges of the plates are beveled to form a miter-joint, as shown most clearly in Fig. 5.

The tie may be of uniform thickness throughout its length and breadth, and when designed to be applied to a wooden tie will be comparatively thin, the spike or like fastening passing through openings in the foot of the rail and tie and entering the wooden tie.

The tie may be used without the antitread device and in one of its many forms may be a box-like structure, as shown in Figs. 6 and 7, the sides sloping upwardly to enable the ballast to bear thereon and hold the tie in the bed.

Having thus described the invention, what is claimed as new is—

1. A hollow, antitread device combined with a railroad-tie and located intermediate the rails of the track and comprising upwardly-sloping sides having approximately vertical spaced slots to lighten the structure and admit of the passage of ballast.

2. A hollow antitread device combined with a railroad-tie and located intermediate the rails of the track and comprising upwardly-sloping ends and sides having approximately vertical spaced slots, as and for the purpose specified.

3. An antitread device composed of slotted plates having outer flanges at their lower edges and having their upper edges beveled and adapted to meet on a miter-joint, means for securing the miter-joint, and other means for attaching the flanged edges of the plates to the tie, substantially as set forth.

4. A metallic tie having end lugs to overlap the foot of the rails and formed to bear against the web thereof, beneath the tread, and against the side of the tread, in combination with rails having openings in their base portions to register with similar openings formed in the tie, and fastening devices passed through said openings.

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

WILLIAM H. HILLYER. [L. S.]

Witnesses:
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