(No Model.)

L. WALLACE.

METAL PAD FOR METAL RAILWAY TIES.

No. 427,814. Patented May 13, 1890.

Fig. 1.

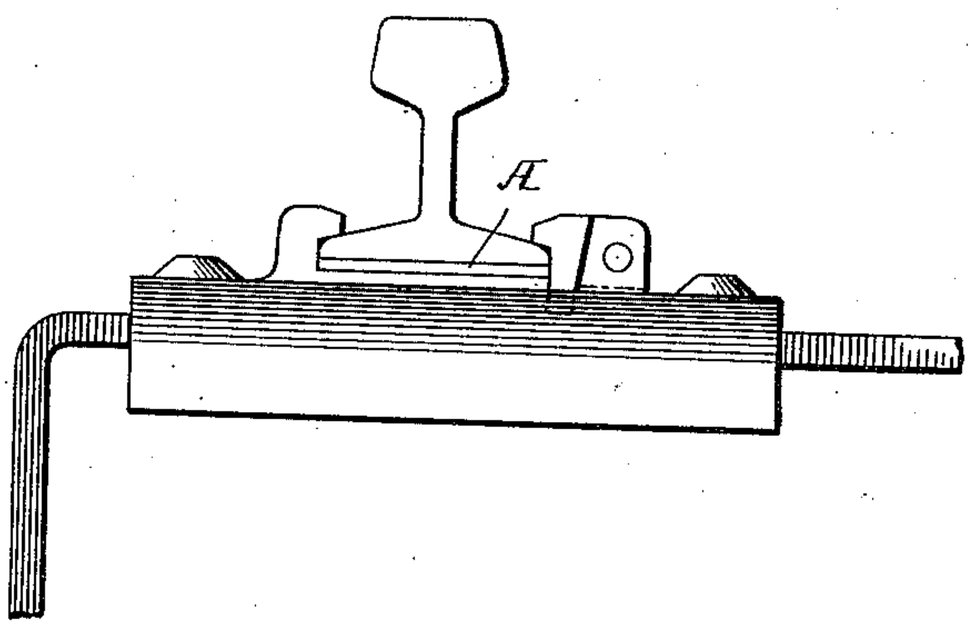
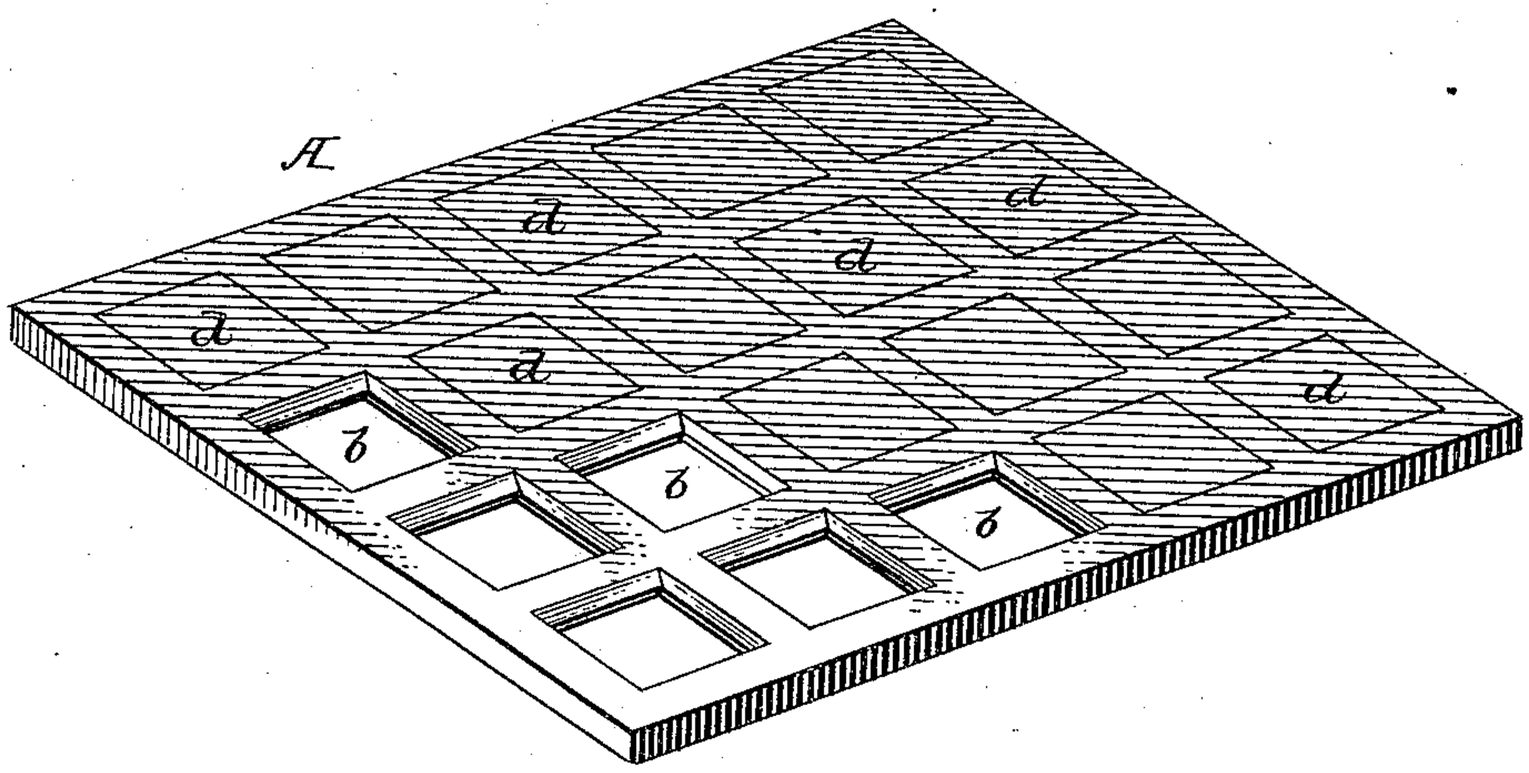


Fig. 2.



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UNITED STATES PATENT OFFICE.

LEWIS WALLACE, OF CRAWFORDSVILLE, INDIANA.

METAL PAD FOR METAL RAILWAY-TIES.

SPECIFICATION forming part of Letters Patent No. 427,814, dated May 13, 1890.

Application filed January 8, 1890. Serial No. 336,255. (No model.)

To all whom it may concern:

Be it known that I, LEWIS WALLACE, a citizen of the United States, residing at Crawfordsville, Montgomery county, Indiana, have invented certain new and useful Improvements in Metal Pads for Metal Railway-Ties, of which the following is a specification.

Efforts have been made from time to time to reduce the concussion and noise resulting from contact between different parts of the bearings or supports for the rails of railways and between the rails and their bearings, and for such purpose wood, rubber, and soft metals have been employed. Where the ties are of metal, and the bed or bearing is therefore more rigid and unyielding than where wooden ties are employed, the necessity for the use of some deadening bearing is more apparent. The use of wood in such a structure is not practicable because of the limited dimensions of the wooden bearings it would be practicable to employ, while the use of soft metals in the ordinary manner is attended with the disadvantages resulting from the spreading and displacement of the soft metal under the hammering effect of the blows to which it is subjected by the passing of successive wheels upon the rails supported by the bearings.

In order to overcome the objections above set forth, I make use of an insonant bearing block, strip, or pad constructed as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is an end view of a rail and supporting tie or chair having my improved bearing combined therewith. Fig. 2 is a perspective view showing the bearing in the form in which it is made for use in connection with the rails and their supports.

The bearing consists of a block or strip A, which may be of iron, steel, copper, zinc, or other suitable metal, material, or composition, and as the object of employing the device is to secure a cushion that will ease the blow of a passing wheel, the material should be softer than that of which the rail and chair is made, yet sufficiently hard to maintain its form and structure under the conditions in which it is used.

In the block or plate A are pockets *b*, either sockets passing partially through the plate or perforations extending wholly through the same, and preferably grooved or dovetailed or ribbed at the edges, so as to retain in the pockets any material filling the same. Such filling material *d* may be lead, Babbitt metal, or other insonant metal or metallic composition or alloy, which may be poured in a molten state into the pockets, and will harden therein, preferably projecting to a slight extent beyond the surface or surfaces of the rail. The pockets *b* are shown as square; but they may be made of any other shape, and the plate may be of any desired thickness. The bearing thus formed is interposed between the chair or tie and the bottom of the rail, being held in place by devices which lock the rail in its position. As the parts of which the bearing is made are softer than the surfaces on which it is placed, it will absorb and reduce the effect of the blows upon the rail, reducing the wear and the noise and giving ease to the railway. While the plate A is softer than the contacting-surfaces, it will support and restrain the softer metallic filling in the pockets, so that the latter cannot be spread and rendered inoperative under the strains to which the same is subjected.

It will be evident that the improved insonant pad or bearing may be interposed between metallic bearing-surfaces, wherever it is desired to reduce the concussion and noise.

I am aware that elastic materials have been interposed between rails and seats; but those are not only not durable, being injured by changes of temperature, but are too yielding.

My object is not to permit a play of the rail, but to deaden the concussions.

I do not claim, broadly, the use of soft metal as a deadening material, but a pad so constructed as to support such material and adapt it to be readily applied to existing structures.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

The combination, in an insonant metallic bearing, of a plate having perforations with ribbed or grooved edges, and fillings of softer metal or metallic composition filling said perforations, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS WALLACE.

Witnesses:
THEODORE D. BROWN,
WILLIAM VANARSDALE.