No. 629,951. Patented Aug. 1, 1899.

W. H. BROWN.

TREAD.

(Application filed Nov. 10, 1898.)

(No Model.)

Fig. 1.

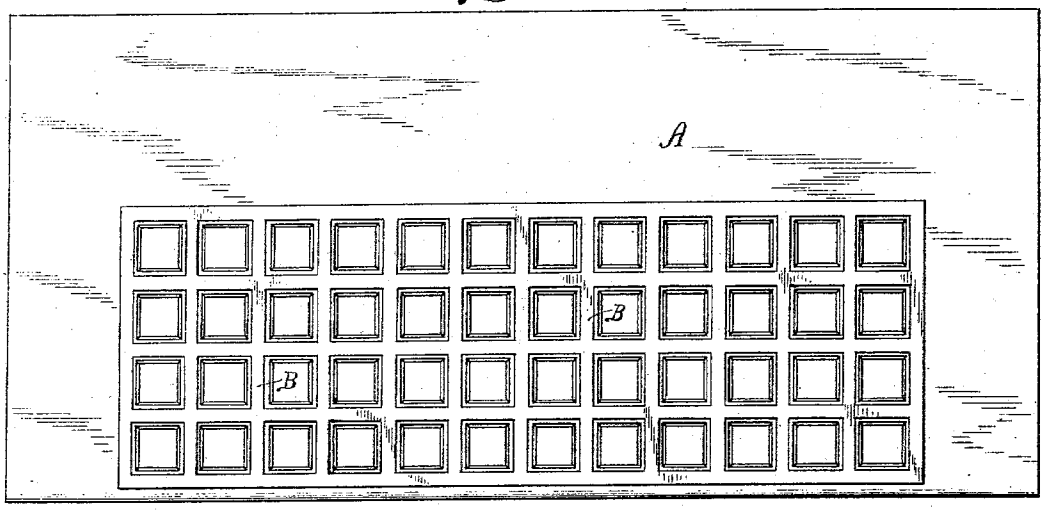


Fig. 2.

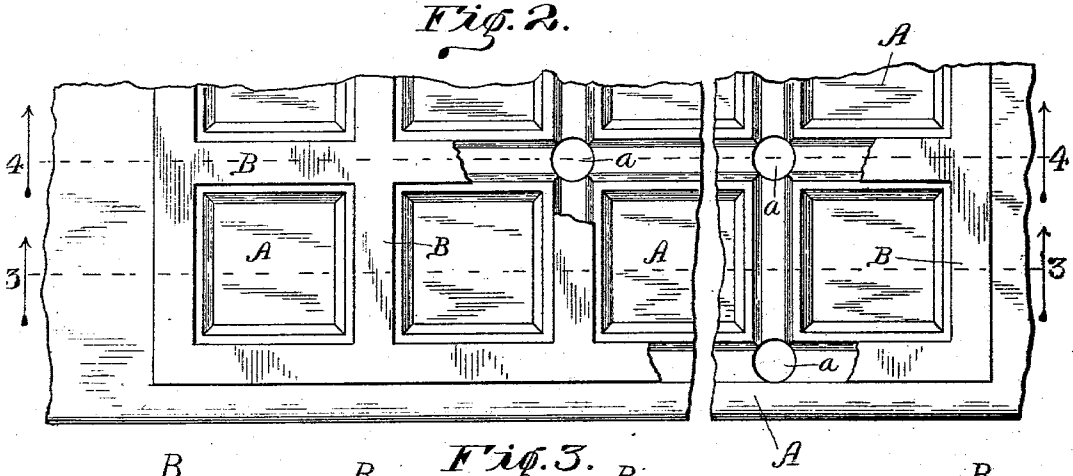
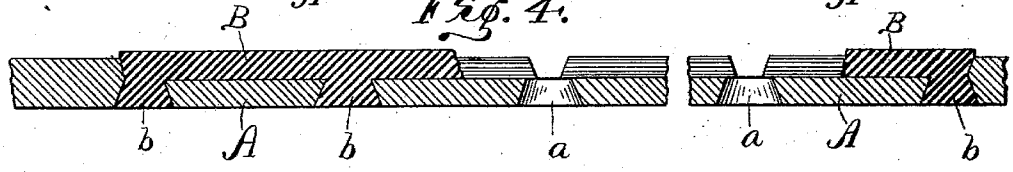


Fig. 3.



Fig. 4.



WITNESSES:

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WILLIAM H. BROWN, OF INDIANAPOLIS, INDIANA.

TREAD.

SPECIFICATION forming part of Letters Patent No. 629,951, dated August 1, 1899.

Application filed November 10, 1898. Serial No. 696,082. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BROWN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Treads, of which the following is a specification.

The object of my present invention is to produce a walkway of such a character that slipping of the feet shall be practically impossible thereon. As is well known, most materials used for stair-steps, sidewalks, and the like are under certain conditions of the weather quite slippery, rendering walking over the same tiresome and dangerous. Lead, which has the characteristic of preventing slipping, is, as is well known, of itself not durable, being soft and wearing easily and rapidly under the abrasion of passage over the same. In my invention I take a hard durable material and form suitable channels or recesses therein, into which I cast the lead, so that the surface thereof shall primarily be somewhat above the surface of the material of which the base is composed, at the same time providing suitable anchors by which such lead may be retained in place.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a top or plan view, on a reduced scale, of a section embodying my invention of a form especially designed to form a tread for use on stairways; Fig. 2, a similar but full-size view of a portion thereof; and Figs. 3 and 4, detail sectional views on the dotted lines 3 3 and 4 4, respectively, in Fig. 2.

In said drawings the portions marked A represent the base, and B the lead strips therein.

It will be understood that in all cases where in this specification and the appended claims I make use of the term "lead" I mean to be understood as meaning any equivalent soft metal which may be used for the purpose.

The base A may be of any suitable material, such as cast-iron, and contains grooves to receive the lead, which preferably cross each other at short distances apart. In the drawings I have shown these grooves as running at right angles with each other, and thus forming squares; but obviously they may run in such directions as desired, giving the intervening spaces any preferred form. At suitable points, preferably at the intersections of the grooves, I form holes *a* of a dovetail formation or with the larger end down to receive and hold anchors formed on or attached to the lead strips. Figs. 2, 3, and 4 are full-sized drawings of portions of the structure which I have actually made and used in the building of iron stairways embodying my said invention. Between the grooves I make shallow depressions in the surface of the base, leaving those portions which immediately bound the grooves comparatively narrow and raised above the general level. This is not of importance when the plates are new and while the lead projects above the adjacent surface; but when the projecting lead is worn off and reduced to the level of such adjacent surface this form becomes of very material consequence to the perfect operation of the device for the reason that only a very small proportion of the iron ever comes in contact with the boot or shoe of the person walking over the same, while if the iron were left with a plain level surface it would shortly after the lead was worn down become worn smooth, in which case a much greater proportion of the entire surface would be smooth and slippery than with my present construction embodying the depressions in question.

The lead strips B are placed in the grooves in the base A, being preferably cast therein after the said base is formed. These strips have at suitable intervals, preferably at the intersections of the grooves where they cross each other, projections *b*, which extend down into the holes *a*, formed in the base, and become anchors, by which the strips are securely held to the base, as is clearly shown in Fig. 4.

As will be readily understood, persons walking on a structure composed of a plate or plates embodying this invention step at first only upon the lead surface, which, as above stated, is very adhesive, and after the lead has been worn until it becomes level with the iron it will still come in contact with portions of the sole of the boot or shoe, as the lead obviously will not wear any more rapidly than the iron, and consequently such a step, sidewalk, or other way will maintain its anti-slipping qualities until worn out, while the

lead, being firmly anchored therein, as described, is securely held in place.

I have shown and described this invention as applied to the treads of stair-steps, but obviously it may be applied to sidewalks, areaways, or any other situation where an anti-slipping surface is desired without further change than is involved in making the sections of the proper shape and size for the situation to be supplied.

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

1. The combination, in a tread for stairs, sidewalks, &c., of a base containing grooves and wider plane depressed surface portions between said grooves, and strips of lead secured within said grooves and projecting to above the adjacent portions of the surface of the base, whereby a lead surface is continuously presented with which the boots or shoes of persons passing over the same will come in contact and be prevented from slipping, substantially as shown and described.

2. The combination, in a tread, of a base having grooves in its upper side and anchor-holes at intervals extending through from the bottom of said grooves to its lower side, and lead cast into said grooves and anchor-holes, thereby forming a securely-anchored anti-slipping walking-surface, substantially as set forth.

3. The combination, in a tread for stairs, sidewalks, &c., of a base containing grooves in its upper surface and having holes extending from the bottom of said grooves through the same to its lower surface, said holes being tapered with the larger end at the under side, whereby anchors of a dovetail form are provided for, and lead cast into said grooves and holes and thus securely anchored therein, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 8th day of November, A. D. 1898.

WILLIAM H. BROWN. [L. S.]

Witnesses:
CHESTER BRADFORD,
JAMES A. WALSH.