No. 791,017. PATENTED MAY 30, 1905.

T. P. FARMER.

SAFETY TREAD.

APPLICATION FILED AUG. 22, 1904.

Fig. 1.

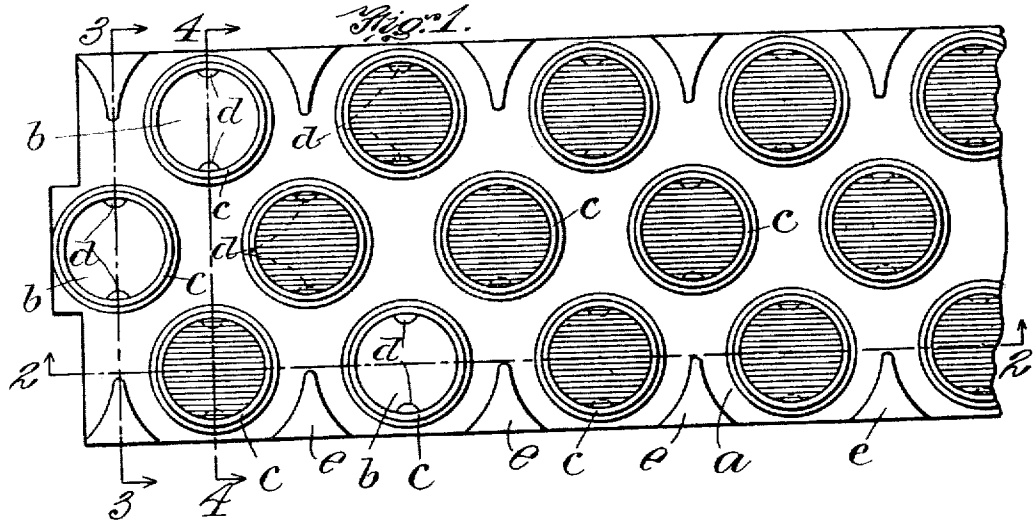


Fig. 2.

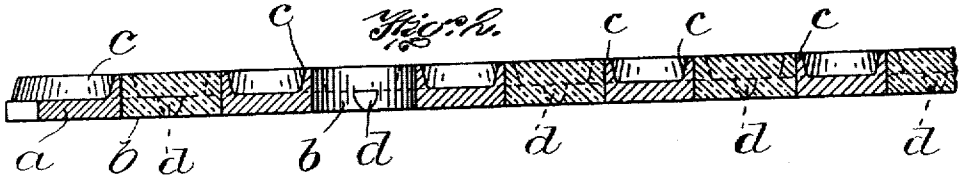


Fig. 3.

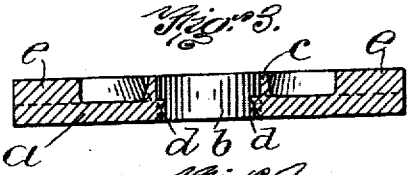


Fig. 4.

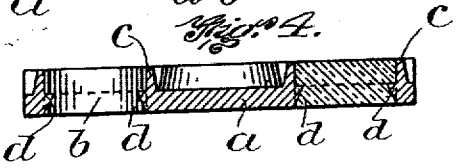


Fig. 5.

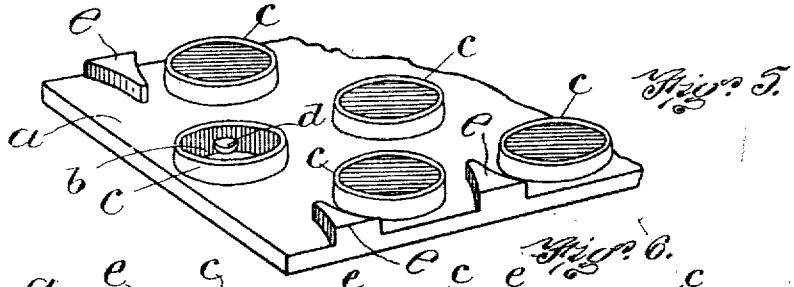


Fig. 6.



Witnesses:
F. D. Sweet
C. C. Stecher

Inventor:
T. P. Farmer
By Wright Brown Quinby & Otterbourg
Attorneys.

No. 791,017. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

THEODORE P. FARMER, OF SOUTHWEST HARBOR, MAINE, ASSIGNOR TO PROTECTIVE TREAD COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

SAFETY-TREAD.

SPECIFICATION forming part of Letters Patent No. 791,017, dated May 30, 1905.

Application filed August 22, 1904. Serial No. 221,695.

To all whom it may concern:

Be it known that I, THEODORE P. FARMER, of Southwest Harbor, in the county of Hancock and State of Maine, have invented certain new and useful Improvements in Safety-Treads, of which the following is a specification.

This invention has relation to safety-treads of the character of that illustrated in Letters Patent No. 696,362, granted to me on March 25, 1902, and its first object is to provide certain improvements thereon which are illustrated in the accompanying drawings, described in the following specification, and pointed out with particularity in the claims.

In the manufacture of safety-treads such as referred to I find that it is highly desirable to provide means for insuring the locking of the soft-metal plug in the cavity adapted for its reception and, further, to lighten the weight of the base plate or web, so as to render it easier to handle and cheaper to manufacture. I further find it is highly desirable to protect the upstanding walls of the sockets at or near the edges of the base plate or web, so as to prevent their being worn away too rapidly. Therefore in the present invention I preferably employ a cast web in which the sockets for the antislipping material extend entirely therethrough, said sockets being provided with inwardly-projecting lugs so constructed as to prevent the plugs from being forced inward or outward, as the case may be. I further provide the web with raised hard-metal portions the upper surfaces of which are substantially flush with the upper edges of the walls which partially form said sockets, so as to save said sockets from excessive wear.

Referring to the accompanying drawings, Figure 1 represents in plan view a safety-tread embodying the invention. Fig. 2 represents a section on the line 2 2 of Fig. 1. Fig. 3 represents a section on the line 3 3 of Fig. 1. Fig. 4 represents a section on the line 4 4 of Fig. 1. Fig. 5 represents in perspective view a portion of the tread, one of the sockets being empty to show the interior construction thereof. Fig. 6 represents a section through the web for the introduction of the antislipping material.

Referring to the drawings, *a* indicates a hard metallic web, preferably of cast-iron or cast-steel. It may be of any suitable length and width, so as to contain one or more rows of sockets. The said web is cast with a plurality of apertures *b*, each aperture being encircled by an upstanding wall or annular flange *c*. The said flanges or walls all project upwardly from the face of the web, so that the socket is of the depth equal to the thickness of the web plus the height of the walls which project upwardly therefrom. These sockets may be of any suitable shape, although I have illustrated them as being circular or round. The inner surfaces of the sockets are perpendicular to the plane of the web; but the outer surfaces of the walls *c* are preferably frusto-conical, as illustrated more particularly in Fig. 3. The said sockets *b* are filled with said antislipping material, such as soft lead, with which they will be filled while in the molten state or when pressed therein in sheet form. In practice the web is cast in the form herein described, and the lead plugs, which are of suitable shape, are placed loosely in the sockets, after which the plate with the plugs thereon is passed between rollers, which press the plugs into the sockets so as to fill the same, leaving the upper surfaces of each plug flush with the upper edges of the upstanding walls *c*. For the purpose of preventing the removal of the plugs each of the sockets is formed with inwardly-projecting lugs *d*, of which there may be as many as desired. They may be set so closely together as to practically form a continuous ring, but I find that two oppositely-disposed lugs are sufficient for the purpose. Each lug in plan view is substantially semicircular, its upper surface being substantially in plane with the upper surface of the web, and it tapers downwardly and outwardly, as shown in Fig. 3, so that it is, as it were, undercut. These lugs form locks, which, being surrounded by the material of which the plug is made, securely hold the plugs in place against removal. By thus

forming the lugs the casting of the web is facilitated, since by undercutting said lugs the web may be the more easily withdrawn from the mold. Along the edges of the web are rows of wear-surfaces *e*, which are formed integrally with the web. As illustrated they are substantially triangular in plan view and are arranged between the sockets, their bases being coincident with the side edges of the web. The wear-surfaces *e* are flush with the tops of the walls *c* to protect them against undue wear.

Having thus explained the nature of the invention and described the way in making and using the same, but without attempting to set forth all the forms in which it may be made or all the modes of its use, I declare that what I claim is—

1. A safety-tread comprising a web having one or more sockets, there being an upstanding wall around each socket, and each socket being formed with a plurality of inwardly-projecting undercut lugs, in combination with antislipping plugs filling said sockets and locked in place by the said lugs, substantially as described.

2. A safety-tread comprising a web having walls upstanding from the face thereof which form sockets for the reception of antislipping material and wear-surfaces arranged along the edge of said web and alternating with the said sockets, substantially as described.

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

THEODORE P. FARMER.

Witnesses:

MARCUS B. MAY,

C. C. STECHER.