

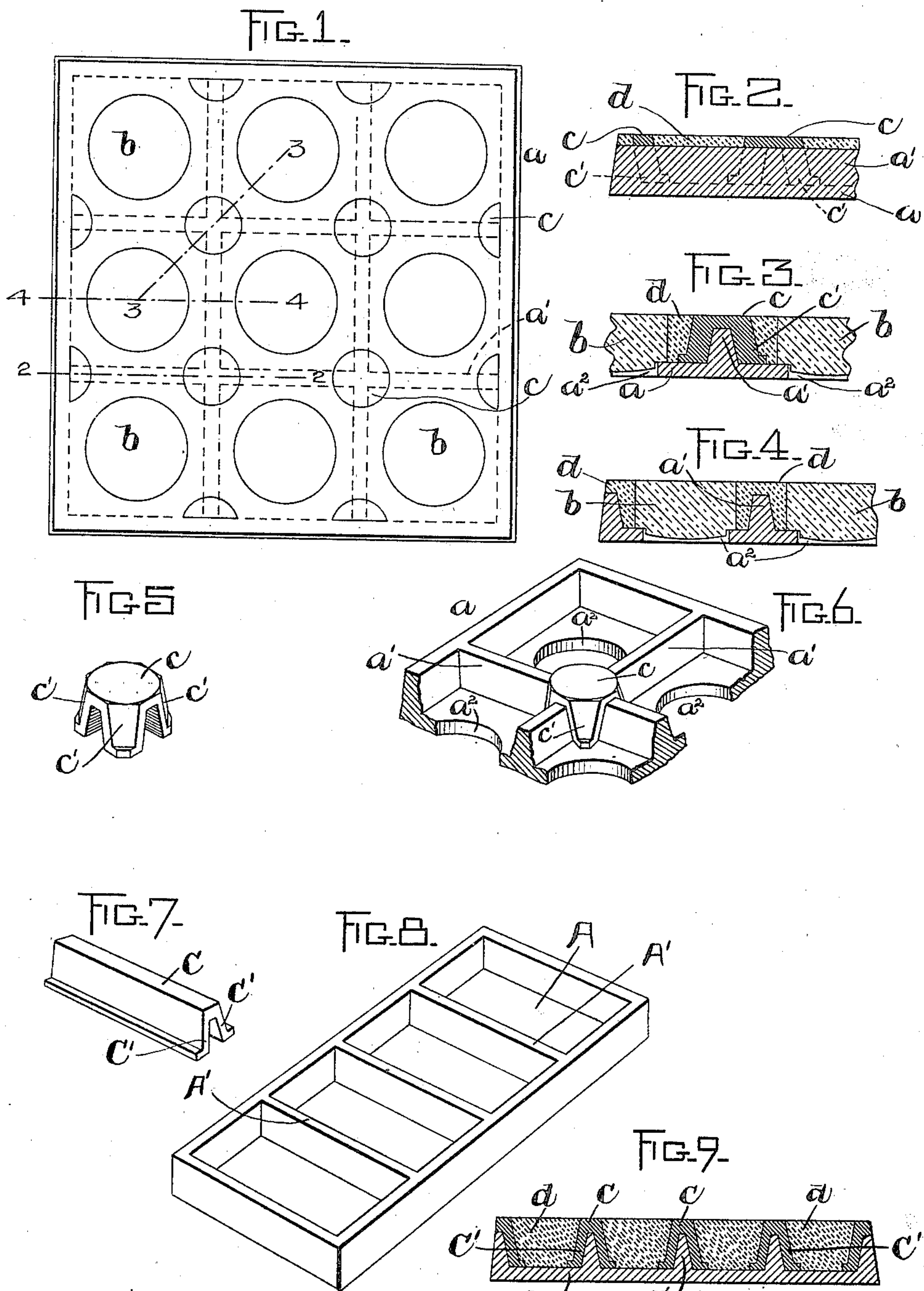
No. 679,237.

Patented July 23, 1901.

S. MACKAY.
SAFETY TREAD FOR SIDEWALKS.

(No Model.)

(Application filed Sept. 16, 1899.)



WITNESSES:
E. Barchelder
P. W. Pizzetti

INVENTOR:
Stewart Mackay
By Hugh Brown & Quincy
Atty's

UNITED STATES PATENT OFFICE.

STEWART MACKAY, OF NORTH CHELMSFORD, MASSACHUSETTS.

SAFETY-TREAD FOR SIDEWALKS.

SPECIFICATION forming part of Letters Patent No. 679,237, dated July 23, 1901.

Application filed September 16, 1899. Serial No. 730,682. (No model.)

To all whom it may concern:

Be it known that I, STEWART MACKAY, of North Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Safety-Treads for Sidewalks, &c., of which the following is a specification.

This invention relates to safety-treads for sidewalks, steps, &c., comprising a base or frame of metal having upwardly-projecting strengthening-ribs and a body of cement inserted in the spaces between said ribs, the upper portion of the cement body covering the ribs and presenting a tread-surface.

The invention consists in certain improvements hereinafter described having for their object the provision of a tread of this character having frictional pieces or sections, preferably of lead or other soft metal or a suitable alloy, said frictional pieces forming parts of the tread-surface and being held in place conjointly by the ribs and by the cement body.

Of the accompanying drawings, Figure 1 represents a top plan view of a safety-tread embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a perspective view of one form of frictional tread-piece. Fig. 6 represents a perspective view of a portion of the base or frame of the tread shown in Figs. 1, 2, 3, and 4, said figure showing one of the frictional tread-pieces in place. Fig. 7 represents a perspective view of another form of frictional tread-piece. Fig. 8 represents a perspective view of the frame or base used with the tread-piece shown in Fig. 7. Fig. 9 represents a sectional view of a tread embodying the parts shown in Figs. 7 and 8.

In the drawings, *a* represents the supporting frame or base, and *a'* the strengthening-ribs thereon, said base and ribs being preferably cast in a single piece.

In the constructions shown in Figs. 1, 2, 3, and 4 the base *a* is shown as provided with openings *a²* to receive transparent lights or lenses *b*, which are used when the structure forms a part of a sidewalk covering a vault or chamber. The lenses *b* may, however, be

omitted without departing from the spirit of my invention.

c c represent frictional tread-pieces, which are made of any suitable material, such as lead or other soft metal or a soft-metal alloy. Said tread-pieces are formed to engage the ribs *a'* in such manner that the ribs will hold the tread-pieces in place laterally, or, in other words, prevent horizontal movement of the tread-pieces while they are being embedded in and permanently secured by the cement body hereinafter described.

In Figs. 2, 3, 5, and 6 I show the preferred construction of the tread-pieces *c*, each piece having a series of legs *c'*, the piece and legs being formed to bestride the ribs *a'* at the point where the said ribs meet, each piece *c* having four legs *c'*, which are separated by spaces crossing each other at right angles and formed to fit the sides of the intersecting portions of the ribs. The outer sides of the legs *c'* are beveled or otherwise formed so that when they are in place on the ribs their lower ends will project outwardly in such manner as to be anchored in or interlocked with the surrounding portions of the cement body, as shown clearly in Fig. 3.

The frictional tread-pieces *c* are applied to the base or frame by dropping them loosely upon the ribs *a'* in the manner indicated in Fig. 6, after which a body *d*, of cement or other suitable plastic material, is applied to the base either with or without the lenses *b*, the said cement body filling the spaces adjacent to the ribs and surrounding the tread-pieces and their legs. The upper surface of the cement body is formed substantially flush with the upper surface of the tread-pieces, said cement body and tread-pieces constituting the tread-surface of the structure, which surface is interrupted by the lenses *b* when the latter are employed.

In Figs. 7, 8, and 9 I show a somewhat different construction embodying my invention and adapted particularly for use as a stair-tread where illumination is not desired. In this construction *A* represents the base, and *A'* the ribs formed thereon. *C C* represent the tread-pieces, each of which is in this case made of sufficient length to extend across the base or frame and each having two legs *C'*.

The cement body *d* is applied so that it locks the legs of the tread-pieces in place, its upper surface being flush with the upper surface of the tread-pieces.

5 It will be seen that the above-described construction enables frictional tread-pieces of soft metal and tops or fillings of cement to be readily assembled, the cement securing the soft-metal tread-pieces firmly in place. I do
10 not limit myself to the particular construction of the device herein described, and may variously modify the same without departing from the spirit of my invention. If it is desired to increase the thickness of the tread-pieces, the
15 ribs on which they rest may be correspondingly cut away to afford room for greater thickness between the top surface of the tread-pieces and the bottom surface or seats which bear upon the upper edges of the ribs.

20 It will be seen that the tread-pieces are in all cases formed to bear directly upon the ribs, so that they are firmly supported by the ribs.

I prefer to cut away portions of the tread-pieces *c* that are located close to the margin of the structure, as shown in Figs. 1 and 2.

I claim—

1. A safety-tread comprising a frame or base having strengthening-ribs, frictional tread-
30 pieces composed wholly of soft metal, having inner faces formed to bear on said ribs and each having legs projecting from the body of the tread-piece at opposite sides of said face, said legs being formed on their inner sides to

bear on the sides of the ribs and formed with 35 their lower ends projecting outwardly, and a body of cement inserted in the spaces between the ribs and confining the tread-pieces and their legs, the outwardly-projecting lower ends of the legs being anchored in the cement. 40

2. As an article of manufacture, a frictional tread-piece wholly composed of soft metal having an inner face formed to bear on a seat or support and having legs projecting from the body of the tread-piece at opposite sides 45 of said face, said legs being formed on their inner sides to bear on the sides of such seat or support, the said legs being formed with their lower ends projecting outwardly, substantially as and for the purpose described. 50

3. A frictional tread-piece wholly composed of soft metal having an inner face formed to bear on a seat or support and having legs projecting from the body of the tread-piece at opposite sides of said face, said legs being 55 formed on their inner sides to bear on the sides of such seat or support, the said legs being formed with their lower ends projecting outwardly, in combination with ribs or supports extending between said legs and adapted 60 to prevent the legs from being bent toward each other.

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

STEWART MACKAY.

Witnesses:

ROBERT W. POLLEY,
GEO. F. WHITE.