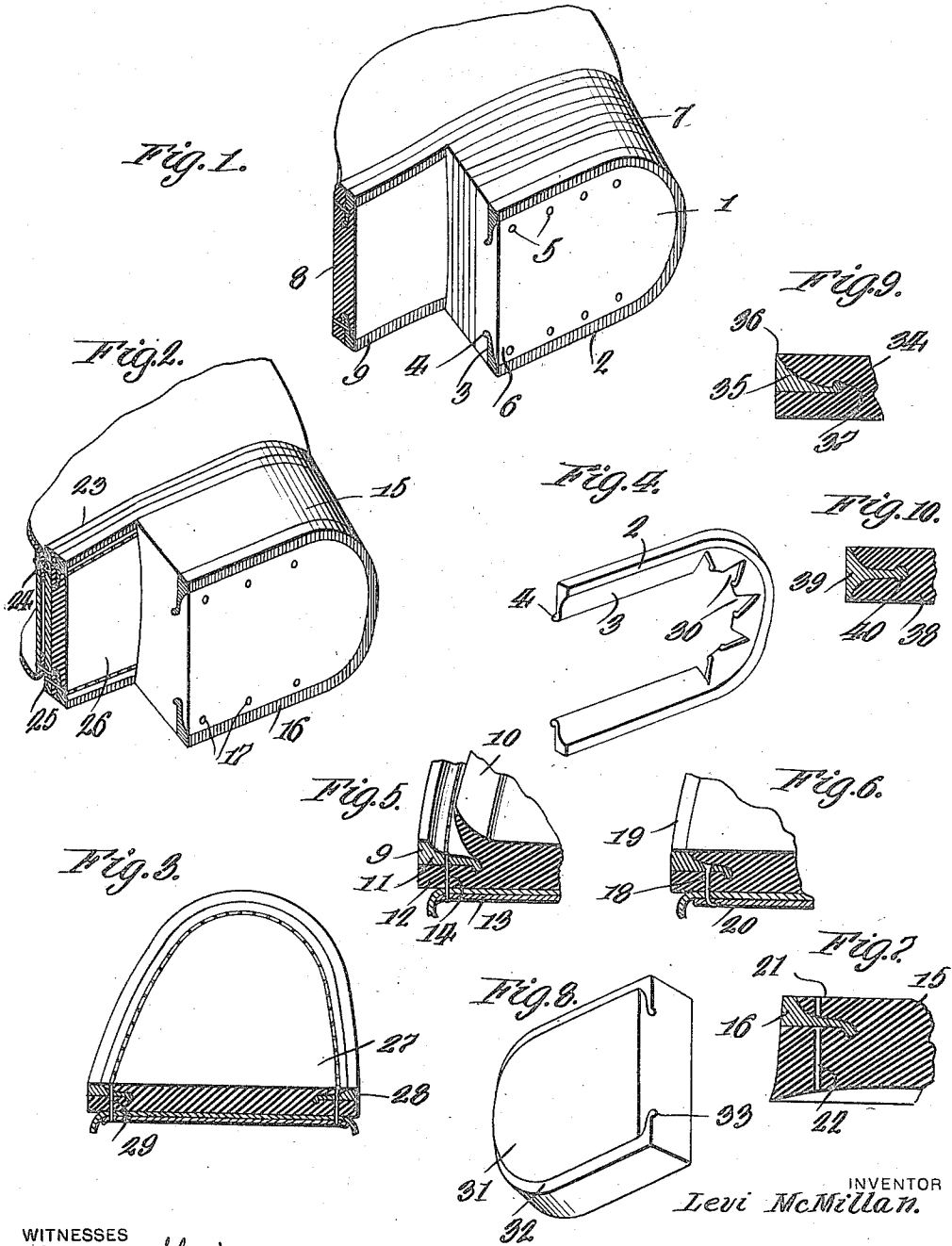


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 TREAD MEMBER FOR SHOES.
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To all whom it may concern:

Be it known that I, LEVI McMILLAN, a citizen of the United States, residing at Wilmington, in the county of New Hanover and State of North Carolina, have invented certain new and useful Improvements in Tread Members for Shoes, of which the following is a specification.

This invention pertains to an improvement in tread members for shoes, and particularly to heel and sole portions constructed of rubber, the synthetic compositions as used in substitute for rubber, or other cushion material inherently possessing considerable frictional properties; and to the manner of securing the same in place upon a shoe.

An object of my invention is to provide a tread member of cushion material, as rubber, or a synthetic or other composition, having an edging rim of leather, fiber, or other like material embodied with the cushion material in such a manner that a smooth, uniform, and reinforced edge is provided which will protect the cushion material against chipping, splitting, or cracking, and will at the same time protect the clothing of the wearer from being torn or otherwise damaged through frictional engagement of the tread member therewith, due to the fact that the friction surface is confined to the center of the tread member and the edging as presented to contact with the garments possesses relatively small frictional properties.

A further object resides in so constructing the parts that the edging material may be embodied with the cushion material by being molded in and vulcanized with, or cemented to the rubber or cushion material to be reinforced and edged, or the cushion material may be channeled or grooved around the rim edge of the tread face and the edging portion, in a strip, can be applied in the proper relation by being fitted to be held in the channel or groove.

Another object is to provide a novel method of securing a tread member of rubber or like cushion material in place, which contemplates the incorporation of a reinforcing member to be embedded in the cushion material and with an adjacent flap of the cushion material to be raised or bent up for the passing of the stitching, tacks, or other securing means through the reinforc-

ing portion, after which the raised or bent up flap can be laid down over the fastening and perhaps cemented down to cover and protect the fastening.

With these and other objects in view, which will be apparent as the description progresses, my invention consists in certain novel features of construction and combinations of parts which will be hereinafter set forth in connection with the drawings and then more particularly pointed out in the claims.

In the drawings:

Figure 1 is a fragmentary view showing a portion of a shoe at the heel thereof and with my invention embodied.

Fig. 2 is a view somewhat similar to Fig. 1 and illustrating a modified form of construction.

Fig. 3 is a perspective view with parts illustrated in section to more clearly show the manner of application and fastening of the tread member.

Fig. 4 is a perspective view showing the edging strip or rim portion intended for use upon a heel or heel lift.

Fig. 5 is a fragmentary view with parts in section to show one of the strips in the securement of a tread member in place.

Fig. 6 shows a view somewhat similar to Fig. 5 with the securing process progressed one step farther.

Fig. 7 illustrates in a fragmentary sectional view the manner of application of the invention upon a cushion heel.

Fig. 8 shows a cushion block as the same might be prepared for the reception of an edging strip similar to that shown in Fig. 4.

Fig. 9 is a fragmentary sectional view illustrating a slightly modified form of edging strip.

Fig. 10 is a view similar to Fig. 9 showing yet another modification.

From a perusal of the drawings it will be understood that my invention might be embodied in a sole portion, a heel lift, or a complete heel, that the tread portion thus formed might be secured in place by stitching, nailing, riveting, or in any other desired manner, and that the tread member as formed after the manner of my invention is applicable for use upon shoes formed or constructed in accordance with the McKay, Goodyear, turned, and other

processes. In Fig. 1 I have illustrated the device of my invention as embodied in the sole member of a shoe and also in a tread lift for the heel, and it might here be stated that the manner of including or involving the edging strip is the same whether the invention be applied to a sole member, a heel tread lift, or a complete cushion heel. As is shown, the block 1 which is of rubber, one of the synthetic compositions used in substitute moreover, or of other like, or dissimilar cushion material has the edging member 2, of leather, fiber, or other material inherently possessing considerably lesser frictional properties than the rubber or cushion material, embodied at the outer edge of the tread surface. This edging strip or member is shaped to present the inwardly extending reduced portion 3 which terminates in the bead or laterally disposed rib 4, and the edging member might be incorporated with the cushion material by being first placed in a mold and having the cushion material passed therearound to embrace the reduced inwardly extending portion 3 and the bead or rib 4, or a block of cushion material may be cut or otherwise formed to take the proper shape and then channeled or grooved around its edge at the tread face to receive the edging member 2. Nails 5, or other fastening means can be driven through the flap portion 6 of the cushion member, through the reduced portion 3 of the edging member 2, and through the remaining portion of the cushion block or member and into the leather or other lift 7 of the heel to thus secure the heel lift in place, and then the edging member 2 will be presented to form a rim around the heel and will give a more or less smooth edge at the rim of the tread portion to present the cushion material throughout substantially the entire tread face but with the harder material having the lesser frictional properties from the edge to thus prevent frictional catching of the heel upon the garment of the wearer in a manner to tear, strain, or otherwise damage the same. As has been stated, the sole member is constructed in substantially the same manner as the heel tread lift, and the body portion 8 has the edging strip or member 9 mounted in substantially the same relation to present the smooth and reinforcing rim at the edge of the tread face of the sole, but to leave substantially the entire tread surface to be of the cushion material which inherently possesses considerable frictional properties to thus give a grip upon the ground in walking. As is here shown, the flap 10 of the sole has been laid back or turned up after the manner shown in Fig. 5 and then the stitching to secure the sole in place is introduced through the reduced portion 11 of the edging member 9 and through

the inner edge portion 12 of the cushion material of the sole after which the stitching is passed through the upper and inner sole as generally designated at 13. In this way, the thread 14 of the stitching secures directly against the material of the edging member 9 and thus the possibility of the rubber or other cushion material being cut through is eliminated. Following the stitching or securement in the manner as set forth, the flap 10 is again laid down over the reduced portion 11 of the edging member 9 and might be vulcanized or cemented thereto to cause a positive union between this flap and the edge member and to insure that the stitching or fastening will be covered and will be protected at all times. In Fig. 2 I have illustrated an entire heel of cushion material and provided at its rim edge on the tread face with the edging member, and as is here shown, the heel embraces the block 15 which is of rubber or of other suitable cushion material and has the edging member 16 embodied at the edge of the tread face as has been mentioned above in connection with the tread lift as shown in Fig. 1. The nails 17, or other fastening means, used to secure the heel will be passed entirely therethrough and through the sole section at the heel of the shoe and thus the cushion heel will be secured in place. If desired, the tacks, nails, or other fastening means might be fastened in the manner as shown at 18 in Fig. 6, where the flap of the cushion material is raised and the tack 18 is passed through the edging member 19 and into the inner sole 20 of the shoe after which the flap of cushion material is again laid down to cover the fastening means and to present a smooth tread surface. If desired, the heels constructed after the manner of my invention might be formed as is shown in Fig. 7, and as here illustrated, the block 15, which is of cushion material has the openings 21 and 22 provided therein above and below the reduced portion of the edging member 16, to lie in alinement so that as nails or other fastening means are driven through the openings 21 and 22 and into the sole structure of the shoe at the heel, the fastening means will penetrate through the reduced portion of the edging member 16, and the nails or tacks may even be driven into the point that the heads engage against the outer side of the material of the edging strip in which relation the edging strip will act in the same capacity as the metal washers generally embodied in rubber or cushion heels as now manufactured. It is of course to be understood that it is not imperative that the nails be driven through the outer flap of the cushion material, and this flap might be raised or turned up and the nails or tacks might then be driven directly through the reduced por-

tion of the edging member and through the opening 22 into the sole structure at the heel of the shoe after which the flap of cushion material might be returned to the position to lie over the fastening means.

In the illustration in Fig. 2, the sole tread member with the edging member embodied therewith is illustrated as being secured to a middle sole 23. This middle sole 23 is secured to the upper of the shoe and the inner sole by the stitching as shown at 24, or in any other desired and suitable manner, and then stitching as shown at 25 is introduced through the extending edge of the middle sole and through the cushion material and the edging member of the outer or tread sole 26 to secure this tread sole in the proper mounting upon the shoe. It will of course be apparent that the middle sole might be secured in other manners than here illustrated or that the tread sole might be applied to a shoe constructed in accordance with the Goodyear process in substantially the same manner as is shown in Fig. 2.

In Fig. 3 I have illustrated a sole portion including the cushion member 27 having the edging member 28 embodied therewith, and stitching as indicated at 29 is introduced through the flap of the cushion member, to the reduced portion of the edging member and the remaining portion of the tread member and then through the upper and the inner sole to secure this tread sole in place. If desired, the edging member 28 might be made to have considerably greater width on the tread surface of the sole and then the stitching might be passed directly through the edging member without being first passed through the outer flap of the cushion member as this flap lies over the reduced portion of the edging member.

As has been stated, the rim portion as indicated at 2 in Fig. 1, and as shown in greater detail in Fig. 4, has a part thereof reduced as shown at 3 and then an outstanding or laterally extending bead or rib 4 is disposed at the edge of this reduced portion to be embedded in the material of the cushion member. If desired, this edging member might be made of a stiffer material cut to have the proper cross section and then bent to take the shape of the rim edge of the heel, or the edging member might be made up from a sheet or blank of material cut out in its middle portion and then cut away to form the reduced portion at 3 and the bead or ribbed portion at 4. Where the edging member 2 is formed from a strip of material, it will be necessary or at least preferable to notch the strip as indicated at 30 so that a more uniform curve will be obtained, and it will of course be understood that the bead or rib of the portions between the notches will hold the edging member in that portion which is brought around the curve, and that

as nails, stitching, or other fastening is introduced through the tread member embracing the edging member as shown at 2, those portions between the notches 30 will be caught and thus the edging member will be positively secured throughout substantially its entire extent. As has been intimated heretofore, the cushion portion of the tread member might be made of a block or sheet as shown at 31, and then channeled or grooved around the peripheral edge of the tread as shown at 32. A strip of material for the edging member might then be inserted in this channel or groove 32 and brought around to partake of the outline of the cushion member and through the fact that the bead of the edging portion will engage in the recessed inner terminal of the channel or groove as shown at 33, the edging member will be held against casual or accidental displacement, and it will of course be understood that the edging member might be cemented or otherwise secured in place so that the fastening by which the tread member is mounted can be relied upon to secure the edging member against removal from the position in which it is fitted with respect to the cushion member. Where the strip is to be inserted in the channel or groove, it will of course be understood that it will doubtless be necessary to notch the same after the manner shown in Fig. 4, or where the edging member is formed of a single piece of material cut out to take the proper form or is molded to shape, the edging member might be fitted in the position for use without preliminary preparation.

In Fig. 9 I have shown a slightly modified form of edging strip, and as is here shown, the cushion member 34 extends substantially entirely over the entire tread face of the sole or heel, the edging member 35 being brought up to approximately a knife edge as shown at 36. In this disclosure, also, I have shown the bead or rib 37 as disposed on the open side of the reduced portion of the edging member 25, and it will be seen that where the edging member is cut or shaped from a strip of leather or other like material, a saving in material is affected as the bead or rib is formed on that side which is cut out to provide the reduced portion for the reception of the flap of the cushion member.

In Fig. 10 I have disclosed another modified form of the invention, and as is here illustrated, the cushion member 38, which might be the outer sole, the tread lift of the heel, or the complete heel, has the edging member 39 so mounted in conjunction therewith that an edge is provided entirely across the thickness of the material of the cushion member and in this adaptation, the edging member 39 is cut away on each of its sides to provide recesses for the reception of the flaps of the cushion material, and a double

beaded or ribbed inner edge 40 is formed to be inserted in the material of the cushion member to hold the edging member against displacement. The advantage of this construction is that with the use thereof the entire edge of the sole or other portion is of the edging material and the edge presents a smooth, uniform, and unbroken outer surface.

In carrying out the method of securement as has been stated, the nails, stitching, or other securing means might be passed through the outer flap of the cushion member where the same overlies the reduced portion of the edging member, but it is preferable that the securement of the tread portion or member in place be accomplished by first raising the flap 10, as the parts are shown in Fig. 5, and then stitching or nailing through the reduced outer portion 11 of the edging member 9, and subsequently again flattening the flap 10 down to lie over the nails or stitching, and perhaps cementing or otherwise securing the flap in this flat relation. When this method of securement is practised, the stitching or nailing is covered to present a smooth and unbroken cushion tread surface for the sole or heel member, the fastening means is prevented from cutting through the flap or the material of the cushion member by the fact that it is reinforced by the reduced portion of the edging member, and the covering of this fastening means protects the same against wear. Very often where stitching is used to secure a rubber sole in place, the mere wearing away of the outer lift of the tread will leave the sole without securing other than the straight strands of thread as passed through the holes formed by the needle in the rubber sole, and it will of course be understood that under such circumstances and unless the thread has been coated with a specially prepared cement or wax, the rubber sole is likely to become loosened, and it will be apparent that a tread member secured after the manner of my invention will not be subject to this wear upon the fastening means.

From the foregoing it will be seen that I have provided a tread member which presents a sole or heel of cushion material with a reinforced and uniform edge of a material inherently possessing considerable lesser frictional properties than the cushion material, that the formation of the edging member is such that it is positively held against displacement from the fitted position with respect to the cushion member or portion. Further, it is of course to be understood that by the use of the method as outlined above, the stitching or other fastening for the tread members will be invisible in the completed shoe, and the stitching or nailing while acting to give additional securement to the edging member will

be reinforced by being passed through this edging member as the material thereof is of a tougher consistency than the material of the cushion portion.

While I have set forth only specific ways in which the tread member is to be formed and have intimated that it is preferable that the cushion member be of a moldable cushion material which might be cast or molded around the edging member and secured to the edging member by being vulcanized or cemented, it will of course be understood that a cushion material of varied character might be employed and that the groove for the reception of the edging member could be cut or channeled in the edge of the block of cushion material after which the edging member might be inserted by being slipped into the groove and might be left without additional securement other than the fastening means for attachment of the tread member, or might be cemented or otherwise secured in place, and also it will be apparent that a number of other changes and modifications might be resorted to in the form, arrangement, fastening, and manner of application of the parts, and hence I do not wish to be limited to the exact disclosure but only to such points as may be set forth in the claims.

I claim:

1. A tread member for shoes including an edging portion having an inwardly extending flange with a bead formation therearound, and a tread portion formed to have the flange embedded therein to present the edging portion in a rim like edge around the tread face.

2. A tread member for shoes including in combination with a main portion of a material having inherent frictional properties, an edging portion having lesser frictional properties embedded in the main portion to present a rim edge therearound and provided with a bead which is a part of the embedded portion and which holds the edging against displacement.

3. A tread member for shoes including an edging portion having an inwardly extending flange portion with a bead formed therearound, and a cushion member formed to have the flange of the edging portion embedded therein to present the edging portion in a rim like edge around the tread face of the tread member.

4. A tread member for shoes including a cushion portion and an edging portion shaped to be embedded in the cushion portion to present a rim edge around the tread face thereof and the edging portion provided with a beaded formation in that part which is embedded to thus hold the edging against being displaced.

5. A tread member for shoes including a cushion portion and an edging portion of

less thickness than the cushion portion shaped to present an inwardly extending reduced edge terminating in a bead-like formation and to be embedded in the cushion portion and to present the edging portion as a rim edge around the tread face of the cushion portion.

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

LEVI McMILLAN.

Witnesses:

L. C. WALSH,
JAMES PRIDGERS.