

1,253,701.

Patented Jan. 15, 1918.

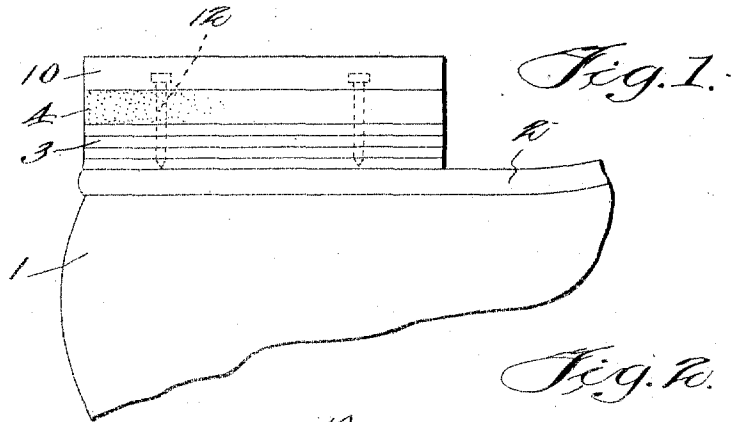


Fig. 3.

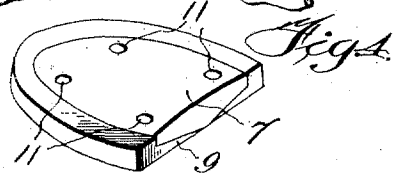
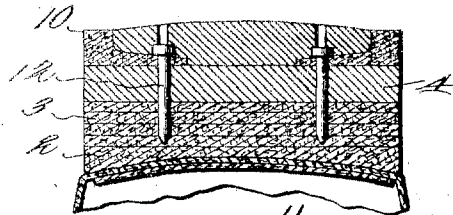
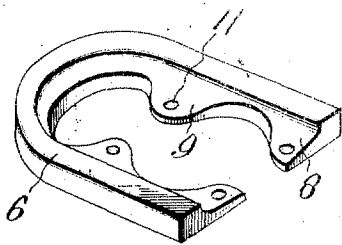


Fig. 6.

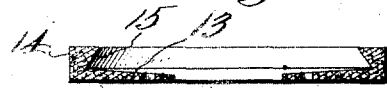
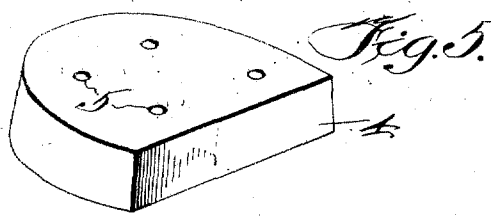
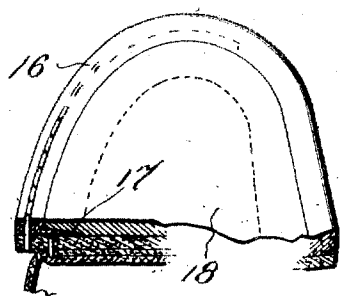


Fig. 7.



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# UNITED STATES PATENT OFFICE.

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## TREAD PORTION FOR SHOES.

1,253,701.

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Application filed May 29, 1916. Serial No. 100,618.

### *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 Portions for Shoes, of which the following is a specification.

My invention relates to an improvement in tread portions for shoes, and more particularly to such portions as are adapted to be used either for the tread of the sole or heel of a shoe and are constructed to be embodied in the shoe as manufactured or to be applied for the individual user, and which tread portion is so constructed that a cushion effect is obtained.

An object of my invention lies in constructing a tread member or portion from which the top lift of a heel or the outer sole member of a shoe sole may be constructed and which presents a friction surface in the central portion, which central portion is preferably of rubber or a like material molded or otherwise placed within a rim portion of leather which will give a comparatively smooth edge surface not having the same frictional properties as the cushion material, thus in a great measure eliminating the possibility of the heel becoming caught in the skirt, trousers, or other garments of the wearer to exert sufficient frictional contact thereagainst that the fabric will be torn or injured, it of course being understood that the rim portion and the filling core will be made to have substantially a uniform thickness throughout and to be secured together in such relation that the fastening of the tread portion may be accomplished through a part of the edging material to thus give reinforcement to the rubber core.

A further object is to provide a heel which comprises in combination, a cushion block of rubber or other suitable material to be mounted on the heel of a shoe to give the desired cushioning resiliency thereto which rubber or other block possesses inherent frictional properties and a top lift to be applied and secured over the cushion block to form a smooth and more or less hard edge around the heel, which edge possesses inherently lesser frictional properties than the rubber cushion block but at the same time to permit sufficient resiliency that

the full effect of the cushion block will be obtained.

Yet another object lies in so mating the cushion block and the top lift that the top lift may be removed and a new lift of the same proportion fitted in place thereof to again utilize or reuse the cushion block, and to give a new tread surface to the heel.

With the above and other objects in view, my invention consists in certain novel features of construction and combination of parts as will be hereinafter set forth in connection with the drawings and more particularly pointed out in the claims.

In the drawings:

Figure 1 is a fragmentary elevational view of the heel portion of a shoe with my invention applied thereon.

Fig. 2 is transverse sectional view through the structure disclosed in Fig. 1.

Fig. 3 is a perspective view of the edging member or rim portion for the top lift of a heel.

Fig. 4 is a perspective view showing the completed top lift.

Fig. 5 is a view in perspective showing the cushion block which will be used in building up a heel.

Fig. 6 is a transverse sectional view showing a slightly modified form of edging or rim member.

Fig. 7 is a perspective and sectional view showing the edging strip applied in conjunction with a shoe sole.

The shoe upper 1, at the heel portion, and the sole portion 2 as well as the shoe heel 3 may be of standard form, and for that matter the shoe as an entirety might be of standard construction; it being the purpose of my invention that the structure can be applied either as the shoe is manufactured or at the requirement of each individual user after the shoes have left the manufacturer. A cushion block 4 is shaped to be fitted either directly on to the heel portion of the shoe, by being dished on its inner side, or is shaped to be received upon a portion of the heel structure which is left attached to the shoe, and this block may be of rubber, one of the synthetic compositions used in substitute therefor, or of any other suitable material which will give the proper resiliency. The cushion block 4 is made of such a shape that it will approximately fit the heel or the heel por-

tion of the sole, and the openings 5 are formed therethrough for the reception of suitable fastening means which will be hereinafter described.

5 While the top lift which is to be secured over this cushion block 4 and to form the smooth edge on the tread of the heel might be constructed from a single layer of leather, it is preferable that it be constructed to have  
10 its center of a cushion material and to have the edge only of the material of a harder and smoother consistency, however, it is essential that this tread lift be constructed throughout of a material which will have inherent  
15 elastic qualities so that the lift may give to the shape of the cushion block and the distribution of the weight and thus permit the accomplishment of the fullest measure of cushion action. With the above in mind, it  
20 is preferable that the tread member be constructed to constitute a rim portion 6 which may be of leather, fiber or other suitable material, and a central filling core 7 of rubber, one of the synthetic compositions, or other  
25 suitable material which will give the desired cushion action. As is shown in Fig. 3, this rim 6 comprises a single piece of material, which may be leather, vulcanized fiber or other suitable material, and the member  
30 might be formed by molding, pressing, or cutting the material to the proper shape, and in the case of a flexible material such as leather which can be readily formed to take various shapes the member might be shaped  
35 from a strip of material which would be bent to have the proper outline. This rim member 6 is cut away or otherwise reduced in its outer face and at the inner edge as shown at  
40 8, and ears or tabs 9 are extended inwardly at each end and at the sides. The tabs 9 are preferably brought down in a gradual slope from the reduced portion at 8 so that they terminate in feather edges or at least have little thickness at these points, and for that  
45 matter the remainder of the member on the inner edge might be reduced to have a comparatively thin cross section and thus a greater space be left for the rubber or other cushion core 7. This filler at 7 is cast,  
50 pressed, or otherwise embedded within the cored out or grooved portion 8 of the rim member 6 and that a greater cushion action may be obtained, it is preferable that the core 7 be rounded out slightly on its outer  
55 side as shown in Fig. 2 although it will of course be understood that the inner side of the outer lift designated as a whole by the reference character 10 must be substantially flat. Nail receiving openings 11 are formed  
60 through the top lift 10 by being perforated through the filling core 7 and through the ears or tabs 9, and care should be exercised that these nail receiving openings 11 are in exact registry with the openings 5 of the  
65 cushion block 4.

In the attachment of the heel as above described, the shoe heel may be entirely omitted or may be built up to comprise several lifts if the device is being applied to a new shoe in the course of manufacturing, or if  
70 the heel is to be applied on a shoe which is already in use, the entire shoe heel may be removed or may be brought down so that it will be comparatively low and will consist of a comparatively small number of lifts. The  
75 cushion block 4 is then fitted in place and the top lift 10 is fitted over the cushion block 4 with the nail receiving openings 11 thereof in registry with the nail receiving openings 5 of this block 4 and then the nails 12 are inserted  
80 through the openings 11 of the lift 10 so that they pass through the openings in the tabs or ears 9 and then through the openings 5 of the cushion block after which they are driven into the solid leather at the heel of  
85 the shoe. It is preferable that the filling core 7 of the heel lift have the openings 11 as formed therein made slightly larger than these same openings are made through the ears or tabs 9 and through the block 4 and  
90 thus the heads of the nails 12 may be brought down to bear against the ears or tabs 9 and in this way the nails will hold against the material of the rim member 6, while the nail shanks have close fit within the openings of  
95 the ears or tabs and also in the openings 5. When the parts are fitted in this relation, the rim member 6 will extend around the outer edge of the shoe heel to entirely cover the cushion block 4 so that the only portion of  
100 this block which is exposed is the outer side edge, and thus the shoe heel presents a rim edge which is of a smooth and more or less hard consistency which will not engage frictionally with the fabric of the garment in  
105 either putting the same on or in walking, with sufficient frictional gripping force to cause tearing or injury of the fabric thereof in any way, and at the same time the core 7 and the cushion block 4 will give sufficient  
110 resiliency and cushioning action to the heel that it will relieve the jars and the fatiguing effect incident to walking or standing. As the heads of the nails 12 are driven below the surface of the core material to bear  
115 against the ears or tabs 9, the nails will not come in contact with the floor, pavement or other surface over which the wearer is walking when the weight is placed on this outer lift and the cushion block 4 is consequently  
120 slightly compressed or distorted in its cushioning action. While it is intended that the cushion block 4 and the lift 10 be constructed as pairs it will be evident that when the core 7 and the rim member 6 of a lift or a  
125 pair of lifts have become worn, the nails 12 may be withdrawn and then a new lift 10 may be put in its place and the nails may be again passed through the openings 11 and 5 and driven into the leather of the shoe to  
130

mount this new pair of tread lifts on the heel, and in this way the cushion block 4 may be reused a number of times and the heel may be built up by applying new tread lifts 10.

In Fig. 6 I have illustrated a slightly modified form of rim member, and as here shown the rim member will consist of the same outline as has been set forth above and will have the ears or tabs 13, however, the cut away or recessed portion of this rim 14 is shaped to have a substantially dove-tailed form as shown at 15, and thus the core portion 7, when cast, molded, or otherwise formed in conjunction with this rim member 14 will be secured against pulling out of the recessed portion, should the union between the core and rim portion become broken in any way.

In Fig. 7 I have illustrated a slightly varied form of structure in which the tread portion might be applied to a shoe sole to accomplish the same purpose for which it is intended upon the heel, and as here illustrated the rim portion 16 has an inwardly extending flange portion 17 which is brought down to a thin edge and is disposed to lie in a plane with the inner side of the rim member 16, and a core portion 18 of a suitable cushioning or frictioning material is cast, molded, or otherwise placed to fill between the looped around portions of the rim member 16. In securing this sole in place, the stitching or nails may be penetrated through the rim portion 16 or through the core portion at its edges so that they will pass through the inwardly extending flange like portion 17 of the rim member, and in this way the structure will be reinforced at the point of securement.

While I have herein shown and described only certain specific forms of the structure and have set forth only certain ways in which it might be used, it will of course be understood that a number of variations and modifications might be resorted to in the form and arrangement of the parts and also in the manner of mounting the same in use, without departing from the spirit and scope of my invention, in view of which fact 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 consisting of a leather rim portion provided with an inwardly extending portion of less thickness than the rim proper, and a filling core of rubber within the rim and overlying the inwardly extending portion while at the same time being shaped to accommodate the extending portion, the tread member having a substantially uniform thickness throughout.

2. A tread member for shoes comprising a leather rim portion shaped to provide inwardly extending tabs of less thickness than the main rim, and a filling core of rubber placed within the rim portion and overlying the tabs while at the same time being formed to accommodate the thickness of the tabs, forming a center for the tread member and making the same of substantially uniform thickness throughout, said tread member provided with openings formed through the inwardly extending tabs of the rim portion and through the filling core to receive fastening means and the structure being so arranged that the tabs form reinforcement at the points of securement.

3. In combination a cushion block of rubber having fastening receiving openings formed therethrough, a tread member consisting of a leather rim portion provided with an inwardly extending flange of less thickness than the main part of the rim and a filling core of rubber within the rim portion and overlying the flange, and forming a tread member of substantially uniform thickness throughout, said tread portion being provided with fastening receiving openings extending through the flange and registering with the openings of the cushion block and all of said parts so arranged that fastening means may be placed through the registering openings to secure the tread member and the cushion block in the proper mounting.

In testimony whereof I affix my signature in presence of a witness.

LEVI McMILLAN.

Witness:

M. E. JONES.