July 26, 1938. H. G. HALLORAN 2,124,819

SHOE BOTTOM FILLER

Filed Aug. 23, 1937

Fig. 1.

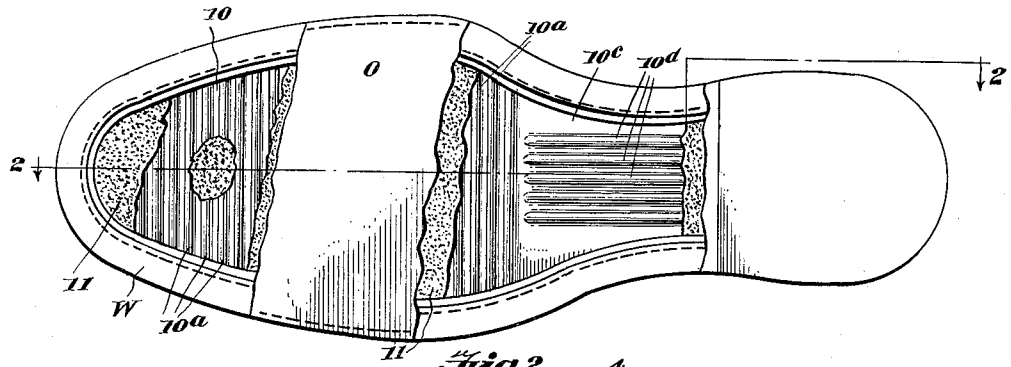



Fig. 2.

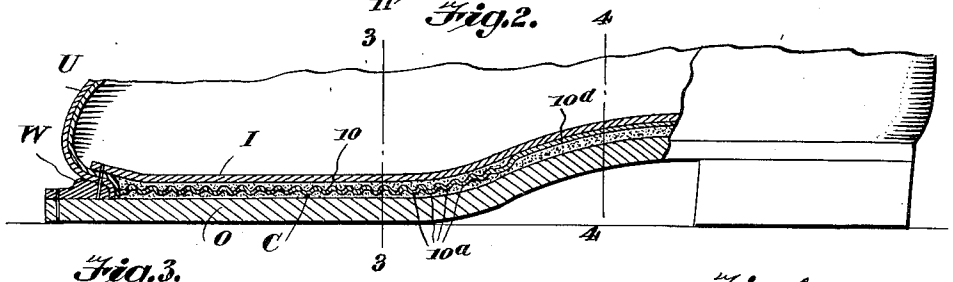



Fig. 3.

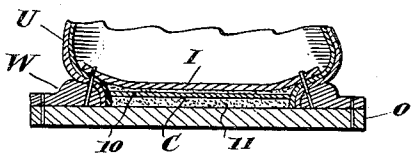



Fig. 4.

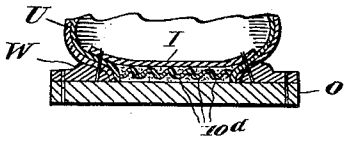



Fig. 5.

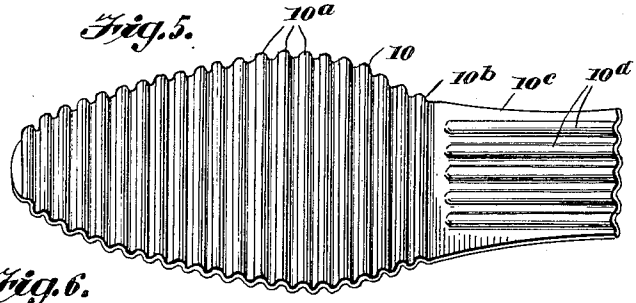



Fig. 7.

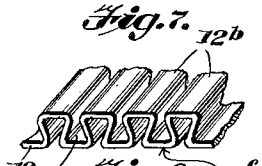



Fig. 8.

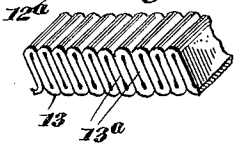



Fig. 6.

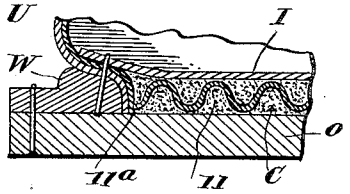
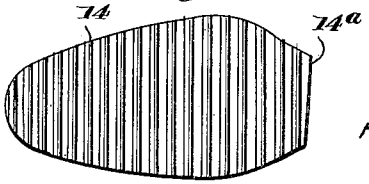



Fig. 9.




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# UNITED STATES PATENT OFFICE

2,124,819

## SHOE BOTTOM FILLER

Henry G. Halloran, Mattapan, Boston, Mass.

Application August 23, 1937, Serial No. 160,536

3 Claims. (Cl. 36—30)

This invention relates to bottom fillers for footwear to fill the cavity between the innersole and outersole of welt shoes, and the corresponding cavities in other types of footwear. A principal object of the invention is to provide a bottom filler, that while providing all necessary flexibility in the shoe tread for normal lengthwise flexing in walking, at the same time providing an adequate degree of stiffness and rigidity transversely of the sole to prevent spreading, and preserve the shape of the shoe. The bottom filler of the invention comprises a sheet of material that may be either metal or suitable composition, that is fluted, corrugated, or ribbed transversely thereof, the character of the sheet and of the transverse fluting being such as to permit the sheet to flex readily lengthwise as required in walking while providing a requisite degree of stiffness and strength transversely to keep the sole in shape. In accordance with a further feature of the invention, the fluted sheet may be extended rearwardly over the locality of the shank with other flutings in that portion thereof, adapted to provide a shank reinforce.

The foregoing and other objects, and advantages, of the invention will be better understood from the following detailed description taken in connection with the accompanying drawing, and the distinctive features of novelty will be thereafter pointed out in the appended claims.

Referring to the drawing:

Figure 1 is an elevation with portions broken away showing the bottom of a shoe equipped with my invention;

Figure 2 is a central lengthwise vertical section on line 2—2 of Figure 1;

Figure 3 is a transverse section on line 3—3 of Figure 2;

Figure 4 is a transverse section on line 4—4 of Figure 2;

Figure 5 is a perspective view of the fluted filler sheet removed;

Figure 6 is a fragmentary section on an enlarged scale of the left hand portion of Figure 2;

Figure 7 is a fragmentary perspective view on an enlarged scale showing a modified form of corrugated or fluted filler sheet;

Figure 8 is a similar fragmentary perspective showing a further modified form of filler sheet embodying the invention; and,

Figure 9 is an elevation on a smaller scale showing a fluted filler sheet of the invention without the shank reinforce extension.

O indicates the outersole, and I denotes the innersole of a usual welt shoe assembled with the welt W by means of the usual stitching to secure the upper U thereto.

In accordance with my invention, a filler piece comprising a sheet 10 is cut or died out of a shape to fit as closely as may be, into the cavity C between the innersole and the outersole. This sheet is corrugated, fluted, or ribbed transversely thereof, as indicated at 10*a*, and rearwardly to near the locality of the instep as indicated at 10*b*. In the form shown in Figures 1 and 5, a rearward extension 10*c* of the filler sheet extended over the locality of the shank is fluted or ribbed longitudinally as indicated at 10*d* to provide lengthwise stiffness and rigidity as requisite for a shank support. By producing the filler piece complete including its rearward extension 10*c* in one piece not only is economy effected in producing the same since, of course, it can be stamped out as a unit, and also quickly and easily fitted in the cavity C of the shoe, but in the complete filler piece thus provided, the forward part 10*a* and the rearward part 10*c* are mutually cooperative to prevent any shifting of the filler piece in the shoe cavity. The filler sheet 10 may be produced either of thin metal, such as aluminum, or it may be made of suitable composition such as water-proof press-board, cotton bats saturated with celluloid solution that may be made from celluloid waste, or any other suitable composition providing a sheet having the requisite flexible quality for lengthwise flexing while providing with its fluting, the necessary stiffness and strength against bending or distortion transversely. When the sheet is made of composition, the material with which it is saturated is preferably of a character to render it substantially waterproof. The flutings, or corrugations in the sheet may be of varying forms within the contemplation of the invention. When ordinary corrugations are employed, as seen in Figure 5, the corrugated surfaces are preferably embedded in flexible and moldable filling material which may be of usual or suitable make-up, this filling material as best seen in Figure 6, filling the openings in the flutings, and the excess being flowed or molded around the peripheral edges of the fluted filler sheet when the shoe is leveled out as indicated at 11*a*.

In Figure 7, I show a form of filler sheet 12, having inverted V-shaped flutings 12*a*, which provides substantial flat-lying areas 12*b*, 12*c*, at the opposite sides of the sheet, this reducing the amount of plastic filler material that is used with the sheet, and making the entire filler lighter

in weight, with more or less open spaces therein.

In Figure 8, I show a form wherein the filler sheet 13 is formed with folds 13a pressed closely against one another and sloping somewhat endwise, this providing a substantially continuous filler body not requiring any appreciable amount of moldable filler substance except as may be required around the edges of the sheet. The fluted filler sheet 14, seen in Figure 9, is substantially similar to that shown in Figure 5, except that it terminates at the locality of the instep as indicated at 14a, and thus does not provide for reinforcing the shank.

The described fluted filler sheet is of value and advantage, not only in providing the requisite firmness transversely of the tread while allowing the necessary flexibility lengthwise thereof but it also aids in making the sole waterproof and stone proof. In the use of soft rubber or like soles, it prevents spreading and keeps the shoe from losing its shape. By keeping the shoe flat on the bottom, it makes the shoe more comfortable in use and gives it longer life. By giving strength and firmness to the innersole, it permits the use of less expensive material for innersoles. Further, in the forms shown in Figures 1 and 5, by combining the transverse sole stiffener member and the shank reinforce in one piece, a material saving in time required for assembling the parts is effected.

As hereinbefore noted, the transverse corrugations or flutings of the filler sheet may be embodied in many different forms, and I do not desire to be limited to any particular form thereof. In this, as well as other respects the invention may be embodied in other forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A shoe bottom filler comprising a sheet shaped to fit the cavity between the inner sole and the outer sole of the shoe, formed with transverse flutings in its forward portion adapted to provide transverse stiffness while preserving lengthwise flexibility, and having a rearward extension corrugated lengthwise and providing a shank reinforce.

2. A shoe bottom filler comprising a sheet shaped to fit the cavity between the inner sole and the outer sole of a shoe, and formed with transverse flutings pressed closely together to form a substantially continuous body, adapted to provide transverse stiffness while preserving lengthwise flexibility thereof.

3. A shoe bottom filler as set forth in claim 2 wherein the filler sheet has a rearward extension over the shank area of the shoe corrugated lengthwise to provide a shank reinforce.

HENRY G. HALLORAN.