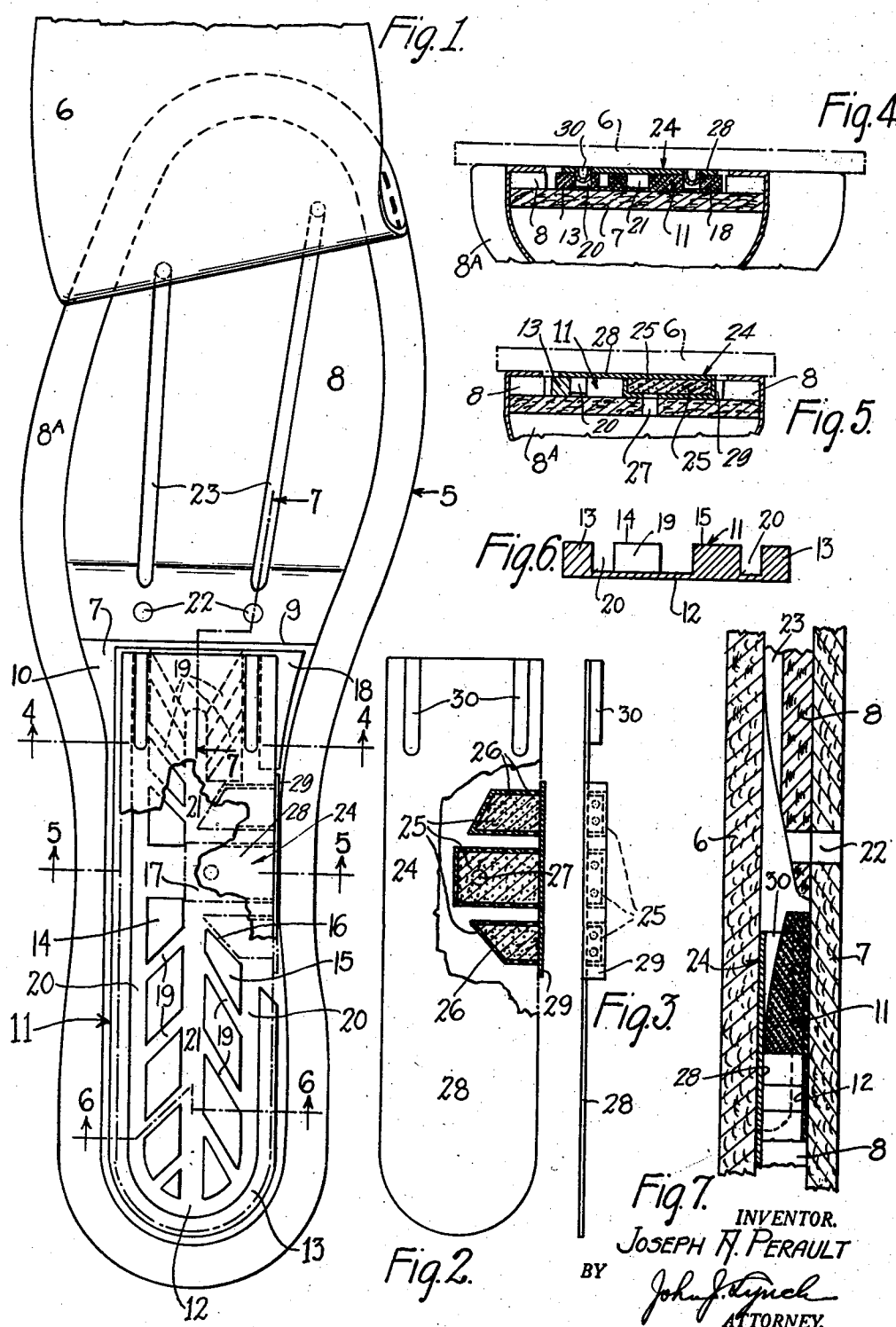


March 1, 1938.

J. A. PERAULT
MEDICATED FILLER SOLE
Filed Nov. 2, 1936

2,109,657



UNITED STATES PATENT OFFICE

2,109,657

MEDICATED FILLER SOLE

Joseph A. Perault, Brooklyn, N. Y.

Application November 2, 1936, Serial No. 108,717

6 Claims. (Cl. 36-3)

This invention relates to filler soles for use with footwear, and in particular to one which can be incorporated in the construction of the footwear or can be sold as a separate unit for use in the footwear.

A particular object of the invention is to provide a filler sole having air passages or flues therein which act as a force pump during walking action to ventilate the footwear and provide ease and comfort to the wearer thereof. In devices of this character it is advantageous to treat the air by chemically conditioning the same so that medication of the feet is carried on during and by, the action of walking.

A further object of the invention is to provide a filler sole employed between the inner and outer soles and so arranged that a device may be employed therewith, said device providing chambers in which a plastic medicament or chemical substance may be held so that air in being forced through the filler sole will, upon contact with said medicament, be conditioned for beneficial action on the feet.

A still further object of the invention is to provide a filler sole which can be employed as an inner sole to provide foot comfort and ventilation and which can be used with or without the medicating device which forms an auxiliary part thereof.

Other objects of the invention include the use of either a metallic part or a rubber part which may contain the medicament necessary to condition the air within the footwear.

Changes and variations may be made in the construction shown and described without departing from the principles of the invention or sacrificing its chief advantages; hence such invention is not to be confined to the structures shown in the accompanying drawing, in which:

Figure 1 is a bottom plan view of an article of footwear in which is incorporated my improved medicated filler sole, the outer sole being turned back to disclose the arrangement of the filler sole and its relation to the filler employed between the inner and outer soles.

Figure 2 is a bottom plan view of the arch support device, part thereof being broken away to show the arrangement of medicament holding chambers.

Figure 3 is an edge view of the arch support member as shown in Figure 2.

Figure 4 is a section taken on the line 4-4 of Figure 1 showing the forward portions of the filler sole and arch member.

Figure 5 is a section on the line 5-5 of Figure

1 showing the relation of one of the medicament chambers to the filler sole.

Figure 6 is a section on the line 6-6 of Figure 1 showing only the filler sole, the same illustrating the passageways therein, and

Figure 7 is an enlarged section on the line 7-7 of Figure 1 showing the meeting ends of the filler sole and shoe filler.

Referring to the drawing in detail, 5 indicates an article of footwear which includes an outer sole 6, an inner sole 7 and a filler sole 8, the latter being usually made of cork to provide a resilient effect. The edge of the shoe upper 9A is secured in any well known manner between the inner and outer soles and the filler sole 8, in adapting my invention to footwear, terminates at 9 to provide a shank and heel filler space between the inner and outer soles 7 and 6, said space being indicated as at 10.

In the shank and heel filler space I provide a shank and heel filler 11 made preferably from soft or sponge rubber or rubber of any desirable elastic quality formed with a base portion 12 on which is preformed or cut the outer wall 13 extending continuously along two sides and the back of said shank and heel filler. Within this wall there is provided the intermediate spaced walls 14 and 15, which are relatively wider than wall 13, and the wall 15 is interrupted as at 16, as is the outer wall 13, to provide a space 17 for receiving the medicament container member to be later referred to. The end of the outer wall 13 beyond space 17 is widened as at 18 to give a greater area of support and to help fill the space 10 at that side.

The wall 15 is provided, as is also the wall 14, with slots or air grooves 19 which at the forward end of filler 11 are arranged at relatively rearwardly converging angles and lead from the outer longitudinal passages 20 to the inner or central longitudinal passage 21. These air slots 19 at the rear half of filler 11 have their discharge ends relatively staggered, that is the end of one slot at one side of central passage 21 is not opposite the discharge end of a slot 19 at the opposite side of said passage 21. The action of the rubber making up the walls 13, 14 and 15 is such, that in walking, the heel contacting with the ground first causes compression of the rubber and gradual closing or constriction of the longitudinal passages and air slots with the result that air is forced from the rear forwardly and through suitable openings 22 in the filler sole 8 and inner sole 7 into the shoe or article of footwear. The air is also forced through troughs 23 in the filler

sole 8 and emerges into the shoe through suitable openings in said troughs beneath the toe and forward portion of the foot.

In order that the air thus forced forwardly by each walking step can be medicated for treatment of the foot for comfort, use is made of a non-compressible auxiliary member or medicament container 24 which is made of metal or hard rubber or any suitable material and is provided with a plurality of pockets or chambers 25, perforated at their sides and ends as at 26 and arranged to be filled with a suitable plastic medicament or deodorant, the fumes of which can escape through the openings 26 to condition the air as it bathes the chambers in its passage thereby. The chambers can be filled through the innersole of the footwear through openings 27, one of which is shown in Figure 1. The openings 27 may be dispensed with in the event that a medicament of long life is employed which does not need replenishing within the ordinary life of a shoe. The medicament container 24 comprises a flat plate portion 28 which rests on the outsole 6 and holds the chambers in position in the space 17 in the shank and heel filler 11 so that said chambers are directly in the path of the air being forced forwardly. A turned over edge 29 on the plate 28 abuts one side of the shank and heel filler space and helps maintain the device in position. The forward end of the plate 28 is provided with open-ended parallel channels 30 which seat in the ends of the passages 20 and maintain the same open so that the air can pass freely.

The adjacent ends of the filler sole and the shank and heel filler are tapered, the latter so that compression of the end thereof will not fill the space in front of the channels 30 and the former so that air in passing out of the shank and heel filler will pass through the holes 22 in the filler sole and along the slots thereof to be forced beneath the toes of the wearer of the shoe or article of footwear, it being understood that my invention applies as well to any type of footwear, the word "shoes" being used to indicate footwear in all classes.

It is understood that the shank and heel filler may be sold for use in the shoe without building it into the shoe as illustrated and also the medicament container may be dispensed with or may be used with the shank and heel filler in the bottom of the shoe as desired. It is evident also that the chemical element container can be made of the same material as the filler sole in varying degrees of hardness.

It is evident therefore that I have provided a medicated filler sole which lends itself readily to constant treatment of the feet during walking, is beneficial to the wearer and is not cumbersome, can be readily incorporated in the shoe construction without detracting from its appearance or in any way changing its shape. To the wearer of the shoe the only evidence of its presence is its comforting effect and medicating influence.

My invention is not to be restricted to the precise details of construction shown since various changes and modifications may be made therein without departing from the scope of the invention or sacrificing the advantages derived from its use.

What I claim is:

1. In footwear, in combination, inner and outer soles, a compressible shank and heel filler be-

tween the soles shaped to provide air passage defining walls, air being forced forwardly through the passages by the diminishing size of the latter as the filler is compressed from back to front by walking action, means in said filler for medicating the air comprising a medicament, a medicament container including a plate adjacent one face of said filler and a perforated medicament housing on the plate extending into said filler and disposed in the path of air being forced through said passages, and said inner sole having openings through which the medicated air can reach the foot.

2. In footwear, in combination, inner and outer soles, a filler sole, a compressible shank and heel filler, said fillers being positioned between said inner and outer soles, the shank and heel filler being shaped to provide a plurality of longitudinal air passage defining walls, air being forced through the passages forwardly by the diminishing size of said passages as the shank and heel filler is compressed from back to front by walking action some of said walls being interrupted to provide a space, means in said space for medicating air forced through said passages, said means comprising a medicament, a medicament container including a plate abutting one face of said shank and heel filler and a perforated medicament housing extending into said space and being disposed in the path of air being forced through said passages and said inner sole adjacent the forward end of said shank and heel filler having openings through which the medicated air can reach the foot.

3. In footwear, in combination, inner and outer soles, a compressible shank and heel filler between the soles shaped to provide a plurality of air passage defining walls, air being forced forwardly through the passages by the diminishing size of the latter as the filler is compressed from back to front by walking action, a medicament container disposed in the path of the forwardly moving air comprising a perforated housing in which a medicament agent is held and said inner sole having openings for leading medicated air to the foot.

4. In footwear, in combination, inner and outer soles, a compressible shank and heel filler between the soles shaped to provide a plurality of air passage defining walls, air being forced forwardly through the passages by the diminishing size of the latter as the filler is compressed from back to front by walking action, one of said walls extending around the sides and back of said shank and heel filler, and some of said walls being cut-away to provide a space in said shank and heel filler, a medicament container in said space and in the path of forwardly moving air and said inner sole having openings for leading the medicated air to the foot.

5. In footwear, in combination, as set forth in claim 1, wherein said walls are slotted to provide air grooves connecting said air passages and said grooves extending at rearwardly converging angles relatively to said passages.

6. In footwear, in combination, as set forth in claim 2, wherein said plate presents channels extending therefrom and into some of said air passages for preventing closure thereof when said shank and heel filler is compressed.

JOSEPH A. PERAULT.