

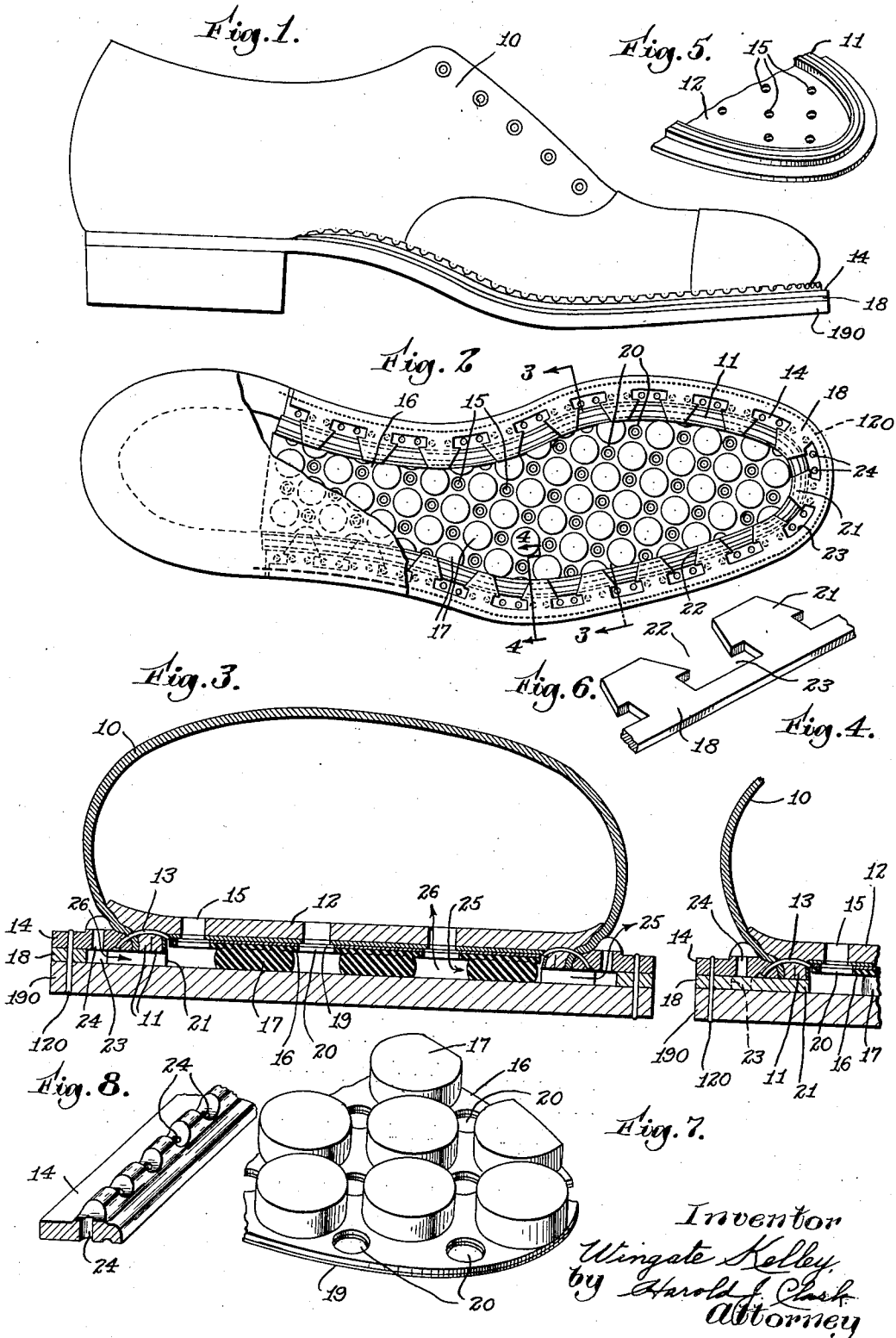
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W. KELLEY

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BOOT OR SHOE AND METHOD OF MAKING SAME

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Inventor
Wingate Kelley
by Harold J. Clark
Attorney

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BOOT OR SHOE AND METHOD OF MAKING
SAME

Wingate Kelley, Needham, Mass.

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2 Claims. (Cl. 36—3)

My present invention relates to boots and shoes, and more particularly to a novel and improved ventilated boot or shoe, wherein the ventilation is provided through the bottom portion of the shoe, rather than through the vamp, quarter or other upper sections of the shoe.

An important object of the present invention resides in the provision of a boot or shoe provided with means to effect a complete circulation of air to and around the foot of the wearer.

Another object of the invention resides in the provision of a ventilated boot or shoe which will be simple and economical to manufacture, and which will be possessed of all the advantages of strength, appearance, flexibility, and other characteristics of the type of shoe to which the invention is applied.

My novel shoes are primarily adapted for, although not limited to, use by wearers who are constantly on their feet, and whose shoes, therefore, must provide a maximum of comfort and coolness. Such wearers are workers, both men and women, in factories, stores, and offices, whose duties require that they shall be constantly on their feet, with their shoes in contact with hard, dry, and warm floors.

My novel shoes are also adapted for out-of-door wear, on hard sidewalks, pavements, and the like. In fine, my novel shoes may be utilized for universal use, as there is nothing in the structure of the shoe to prevent the use of rubbers or other footwear protectors. Furthermore the addition of my novel features does not detract in any sense from the appearance of the shoes in which they are incorporated, but on the contrary may be said to enhance the attractiveness thereof.

My invention may also be incorporated in house slippers if desired.

Another important feature of the present invention resides in the provision of a novel resilient or cushioning filler layer, which is provided with air conducting passages or means.

The insole of the shoe is provided with spaced perforations, in register with the air passages or chamber in the filler, and air passages are provided from the outside edge of the shoe, through perforations or apertures in the welt, communicating with the air chamber or passages in the said filler layer. Thus, by reason of the presence of a cushioning filler layer, the alternate pressure and release of pressure by the foot of the wearer during the process of walking, provides an alternate compression and expansion of the filler layer and the air passages or chambers therein, thus creating a bellows action, whereby

the air will be forced outwardly from the shoe by the pressure of the foot of the wearer, and will be sucked inwardly into the shoe and around the foot of the wearer, upon the release of said pressure.

The cushioning filler layer will occupy the space or area defined by the sewing rib of the insole and the novel midsole or sub-welt.

The resilient filler layer may be located in the forepart of the shoe only, or may extend the complete length of the shoe, as desired by the manufacturer.

A further feature of the instant invention resides in the provision of a novel marginal midsole or sub-welt, to cooperate with the apertures in the welt and with the passages or chamber in the filler, to conduct air to the interior of the shoe.

A still further and important object of the present invention resides in the fact that by my novel construction, air is by-passed from the welt to the filler without in any way weakening or interfering with the proper functioning of the in-seam stitching. This is a feature of great importance, and one that will be instantly appreciated by those skilled in this art.

Other objects and features of the invention reside in the particular construction and arrangement of the parts of my novel boots and shoes, and the above and other objects and features of the invention, combinations of parts, details of construction, and advantages, will be hereinafter more fully pointed out, described and claimed.

Referring to the drawing, illustrating the preferred embodiment of my invention,

Fig. 1 is a side elevation of a welt shoe constructed according to my present invention;

Fig. 2 is a bottom plan view, partly broken away, of the shoe illustrated in Fig. 1;

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary cross-sectional view on the line 4—4 of Fig. 2;

Fig. 5 is a fragmentary perspective view of the insole;

Fig. 6 is a fragmentary perspective view of the midsole or sub-welt;

Fig. 7 is a fragmentary perspective view of the cushioning filler; and

Fig. 8 is a fragmentary perspective view of the perforated welt.

Referring now to the drawing, for a particular description of the invention, the invention in this instance comprises a shoe consisting of conventional upper materials 10, secured to the sewing rib 11 of an insole 12 by the usual in-seam stitch-

ing 13, a welt 14 being secured to the upper materials 10 by said stitching 13. The insole 12 is provided with a plurality of perforations 15, which may be arranged in parallel rows, or in any other desired manner. Positioned below the insole 12, in the area defined by the sewing rib 11 and marginal midsole 18 which will be hereinafter more fully described, is a bottom filler layer 16, provided with a plurality of knobs or bosses 17, these knobs having a thickness equivalent to or slightly greater than the depth of said sewing rib and midsole or subwelt, and being spaced to provide an air chamber or air passages beneath the insole. The filler layer 16 is preferably molded onto a layer of fabric 19 for strengthening and reinforcing purposes, and the combined layers are then provided with spaced apertures 20 which, when the filler is assembled in the shoe, will be in register with the perforations 15 in the insole. The filler layer 16 is preferably cemented in place to the under side of the insole, and said filler layer 16 is of a resilient or cushioning material, such as soft rubber, which has the properties of considerable compression and expansion without affecting the qualities of the filler layer.

The marginal mid-sole or sub-welt 18 is then applied to the thus far assembled shoe, this mid-sole or sub-welt 18 being cemented in place if desired. Subsequently the outsole 190 is applied, and the said outsole 190, mid-sole 18 and welt 14 are united by the usual through-and-through stitching 120.

The midsole 18 is provided with a plurality of tongues 21 abutting against or partially overlapping the filler knobs 17, and between these tongues 21 are air passages 22 terminating in elongated slots 23, said slots 23, as clearly shown in Fig. 2, being in register with the apertures or perforations 24 in the welt 14. The welt 14 is provided with apertures 24 therethrough. Thus, the air from the interior of the shoe will pass through the air passages 22 and slots 23 in the midsole 18 and to the outer air through the apertures 24 in the welt 14. This will provide a shoe with an imperforate vertical outer edge, a feature possessing many advantages, as will be readily apparent.

An important feature which is present in my invention resides in the fact that by my novel method of shoe construction, the inseam stitching 13 is not interfered with in the slightest, all air being by-passed, by means of the marginal midsole or sub-welt 18, beneath said inseam stitching, without in the slightest detracting from the functioning of this important and vital stitching. This is a feature, the importance, utility and value of which will be instantly apparent to and understood by those skilled in this art.

A boot or shoe equipped with the mid-sole or sub-welt 18 will be possessed of greater flexibility than the usual shoe of this construction, because of the fact that said midsole occupies only the marginal area of said shoe, and further because of the presence of the passages 22 and slots 23 therein, these elements increasing the flexibility of said midsole or sub-welt.

When the shoe is worn, the alternate pressure and release of pressure by the foot of the wearer will effect an alternate compression and expansion

of the knobs 17, resulting in a forcing out of the air from the interior of the shoe in the direction of the arrows pointing outwardly, as 25, through the perforations 24 in the welt 14, and a drawing or sucking in of cool and fresh air in the direction of the arrows pointing inwardly, as 26.

Thus, a worker who is compelled to remain on his or her feet during the day is assured of constant ventilation and a constant influx of cool air 10 and egress of heated air to and from the interior of the shoe as the pressure and release of pressure of the foot of the wearer in the shoe is repeated.

The advantages, efficiency, and benefits of my 15 novel shoe will be instantly apparent to those skilled in this art.

I believe that the shoe illustrated and described in this application is novel, and have, therefore, claimed the same broadly in the present application.

While I have necessarily described my present invention somewhat in detail, it will be appreciated that I may vary the size, shape, and arrangement of parts within reasonably wide limits without departing from the spirit of the invention.

My invention is further described and defined in the form of claims as follows:

1. In a boot or shoe, upper materials, an insole 30 having a sewing rib thereon, a welt having a plurality of apertures therethrough, inseam stitching uniting the same, a marginal midsole secured to said welt, and a filler of cushioning material positioned in the space defined by said sewing rib and said marginal midsole, said insole having a plurality of apertures therethrough, said filler having air conducting passages and apertures in communication with the apertures in said insole, and said marginal midsole having a plurality of elongated slots intermediate its edges and in communication with the apertures in said welt and having air conducting passages communicating with the said slots and with the passages in said filler, whereby air is bypassed from the interior to the exterior of the shoe without interference with said inseam stitching.

2. In a boot or shoe, upper materials, an insole having a sewing rib thereon, a welt having a plurality of apertures therethrough, inseam stitching uniting the same, a marginal midsole secured to said welt, and a filler of cushioning material positioned in the space defined by said sewing rib and said marginal midsole, said insole having a plurality of apertures therethrough, said filler having air conducting passages and apertures in communication with the apertures in said insole, and said marginal midsole having a plurality of elongated slots intermediate its edges and in communication with the apertures in said welt and having diverging air conducting passages communicating with the said slots and with the passages in said filler, whereby air is bypassed from the interior to the exterior of the shoe without interference with said inseam stitching.

WINGATE KELLEY.