April 10, 1956 P. ELIASSEN 2,741,038

AIR CONDITIONED FOOTWEAR

Filed July 23, 1952

Fig. 1.

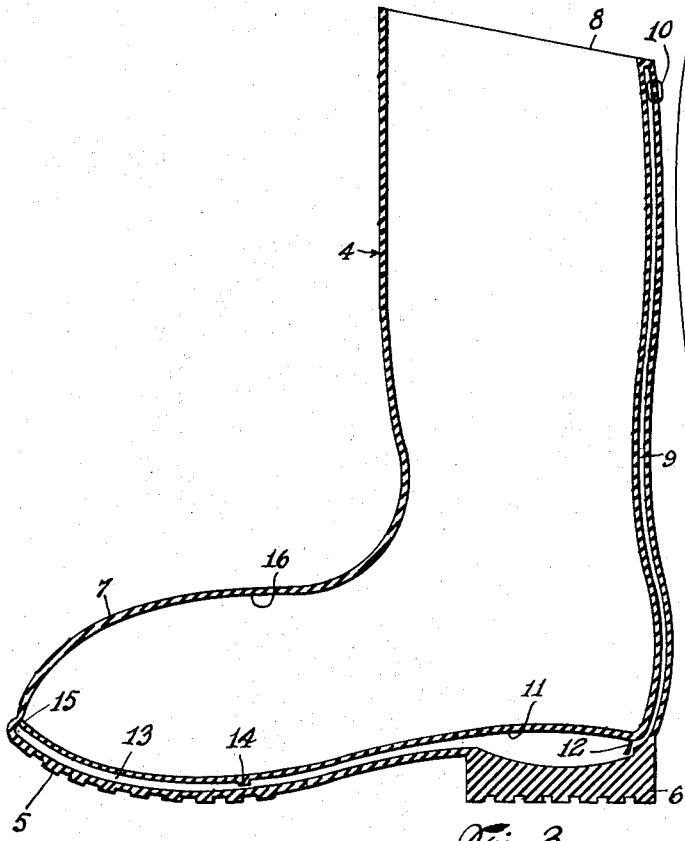


Fig. 2.

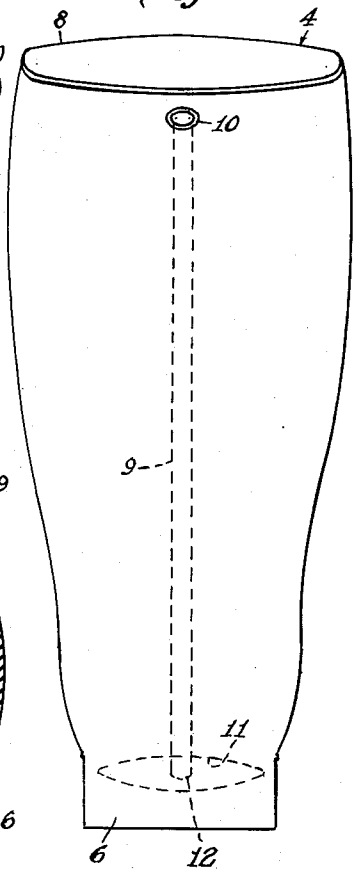
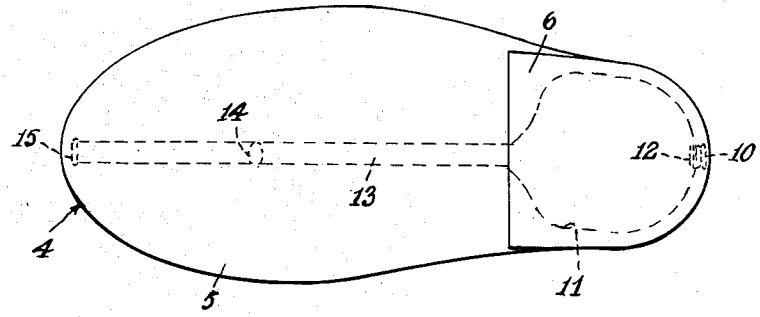


Fig. 3.



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2,741,038

Patented Apr. 10, 1956

2,741,038

AIR CONDITIONED FOOTWEAR

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Application July 23, 1952, Serial No. 300,451

1 Claim. (Cl. 36—3)

The present invention relates to boots and shoes of a type wherein a special form of ventilation is provided for the interior of the footwear involved, and particularly to what I choose to term air conditioned footwear.

The main object of my invention is to provide a boot or the like with a special hollow or channel construction for ventilating the foot from the outside without exposing the foot to the atmosphere or to drafts and annoying direct contact with strong movements of the air about the footwear.

Another object is to provide such a boot or footwear with a partially hollow sole and air passages communicating therewith from the outside in controlled manner.

An ancillary object is to have the shank of the boot provided with a descending air passage communicating with an air chamber at the heel of the footwear and the air chamber also communicating with an air passage beneath the sole.

It is, of course, an object of the invention to provide boots or footwear of the character indicated that is effective to ventilate the feet in safe manner, and yet be simple and durable in construction, as well as reasonable in cost in order to encourage wide distribution on the market, both on economical and health grounds.

A practical object is likewise to provide such footwear that may include the features and advantages of the invention without imparting any peculiar appearance or additional weight to the footwear thus equipped.

Other objects and advantages will appear in greater detail as the specification proceeds.

In order to facilitate ready comprehension of this invention for a proper appreciation of the salient features thereof, the invention is illustrated on the accompanying drawing forming part hereof, and in which:

Figure 1 is a vertical section of a boot or like footwear made according to my invention and embodying the same in a practical form;

Figure 2 is a rear elevation of the same boot or footwear as seen from the right in Figure 1; and

Figure 3 is a bottom plan view of the same boot or footwear as seen from below in Figure 1.

In these views, the same numerals indicate the same or like parts.

In footwear, it is a well known difficulty to find that perspiration of the feet gives rise to a group of annoyances and troubles of more or less serious nature, because conventional boots and shoes are virtually air tight, so that the feet become moist and soggy and all too soon rather odoriferous. It is also true that the feet in such condition are rather sensitive and various kinds of rashes may appear, not to mention that it is difficult in such conditions to be fastidious as is desired in all polite society.

Upon considering this problem, it has occurred to me

that footwear should be ventilated in a special manner so that the excess moisture of the feet will be carried off and the feet kept reasonably dry and well aired without actual exposure to drafts or cold. As a result, I have succeeded in producing a special type of footwear along the lines already mentioned, as will now be described in detail in the following.

Hence, in the practice of my invention, and referring also again to the drawing, a boot or like footwear generally indicated at **4** includes a sole **5** and heel **6**, the upper **7** and top **8**, made of rubber, flexible plastic or leather. Down along the rear of top **8** is provided a descending air passage **9** communicating at the upper end with the atmosphere through a special perforate button or gland **10** secured in place to form the inlet port for ventilating air for the boot. At the bottom, this passage **9** communicates with a hollow pod, lung or reservoir **11** of rubber or the like. At the junction of the narrow passage **9** with the resilient reservoir **11** is located a one way valve **12** preventing return of air from this reservoir to passage **9** but allowing free flow of air down passage **9** to the reservoir at all times.

From the lung or reservoir **11** there extends a second passage **13** forwardly beneath the foot in the sole **5** with another valve **14** located intermediately for closing this passage when the weight of the foot is placed on the sole upon lifting of the heel. At the forward end, this sole passage **13** opens in an air inlet port **15** through which air from passage **13** enters the interior **16** of the boot.

The arrangement is such that when the boot is in actual use, the foot in bearing down on the lung or reservoir **11** compresses the air therein that has arrived from passage **9** thru port **10** and drives the air forward through passage **13** and into boot chamber **16** through inlet port **15**. As the foot bears down on the intermediate portion of the sole **5**, valve **14** is closed and prevents air from passing rearwardly through this passage into the reservoir. As the heel of the foot is lifted, pressure on the reservoir or lung **11** is relieved and it tends to spring up into its full dimensions, drawing in air through passage **9** by way of inlet port **10** and past one way valve **12**. As the foot is again lowered upon the heel **6**, pressure on the reservoir again closes valve **12** and forces air forward through passage **13** and into the boot interior **16** through front vent **15**, and so on.

From the foregoing, it is evident that a continuous one way movement or breathing of air is maintained by walking in the boot or footwear above described, so that the foot is continuously ventilated and kept dry and fresh. The footwear may naturally be of any size or style and have very high or medium tops, and the boots or the like thus constructed may be made of various materials suitable for the purpose.

Manifestly, variations may be resorted to, and parts and features may be modified or used without others within the scope of the appended claim.

Having now fully described my invention, I claim:

An air conditioned boot or the like, including a sole and heel with an upper extending upwards therefrom, the heel portion having a compressible reservoir, the upper having a built-in passage extending upwards from the rear portion of the reservoir with which it connects to a point upon the rear of said upper below the top of the latter at which point it opens to the exterior, and the sole having a single passage extending forward from the reservoir with which it connects at the rear end of said passage and this passage opening upwards into the boot through

the sole at the forward end of said passage in the toe portion of said sole, said passage being direct and unbroken from the reservoir to the point at which it opens into the toe portion, and an integral portion of said sole depending into an intermediate portion of said passage in effective position to close the passage when the foot is brought down on the sole, there being a valve at the rear of the reservoir at the junction thereof with the upwardly extending passage.

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