

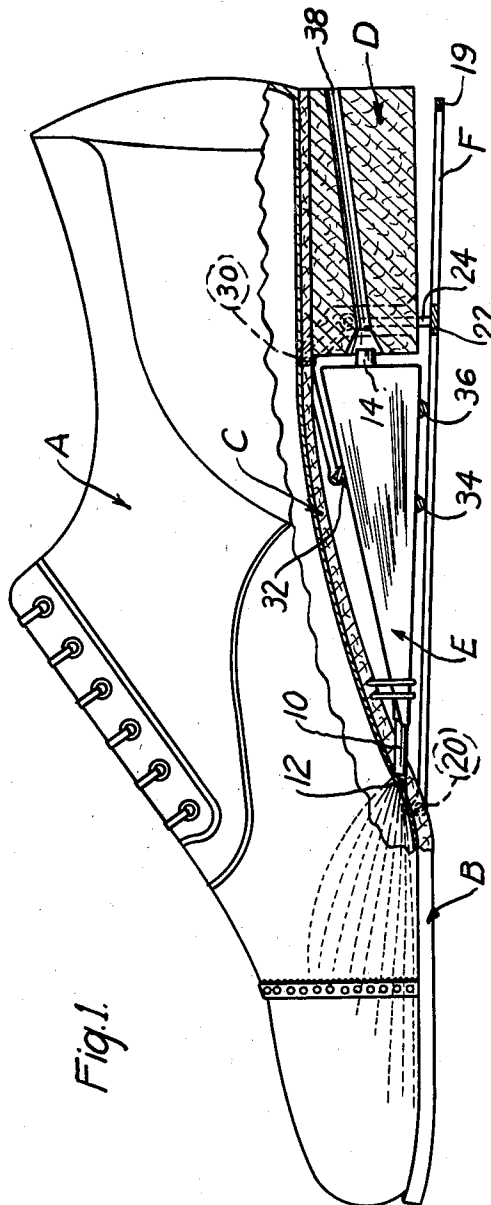
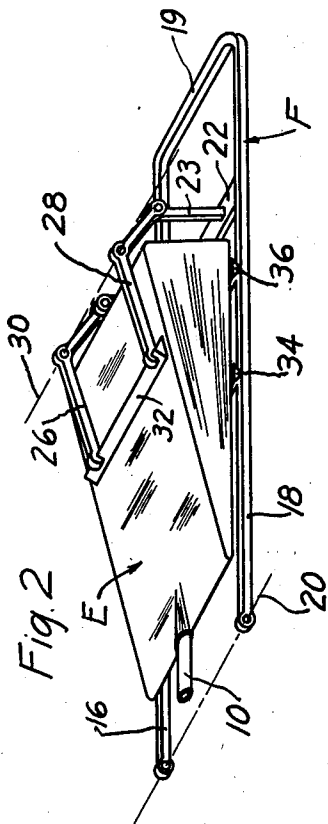
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P. ZIEGLISS

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AIR COOLED HUMAN FOOTWEAR

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INVENTOR
Peter Zieggliss
BY
Harry Langsam
ATTORNEY

UNITED STATES PATENT OFFICE

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AIR-COOLED HUMAN FOOTWEAR

Peter Ziegliiss, Philadelphia, Pa.

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1 Claim. (Cl. 36—3)

My invention relates to a shoe and particularly relates to a shoe which is to be cooled at the bottom of the foot or the sole portion.

Heretofore, it has been customary to make shoes of leather, rubber and composition of matter; and people who stand all day and whose feet are sensitive to perspiration have blisters, irritation and undue perspiration because of the heat retained by the shoe. Blisters and skin irritation as the result of perspiration cause a great deal of suffering to the party wearing the shoes.

It is an object of my invention to provide a cooling action on the sole of the human foot, because the elimination of perspiration and a cooling arrangement will prevent the soreness on the feet of persons who continuously remain standing on their feet.

Another object of my invention is to provide a mechanical device which either can be built in the shoes at the time of their manufacture or which may be added to a shoe as a supplementary part thereof.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

Fig. 1 shows a shoe embodying my invention.

Fig. 2 shows a perspective view of the actuating mechanism and the bellows which provide the air for cooling the sole of the shoe.

Referring to the drawing in detail, I show a shoe for human wear comprising an upper, designated as A, a shoe sole, designated as B, a shoe shank, designated as C, and a heel, designated as D. The shoe is constructed of the customary material, such as leather, rubber, or synthetic composition, or a combination of materials.

Beneath the shank C of the shoe is positioned a set of air bellows, generally designated as E, which has one tube 10 led into the inside of the shoe through an opening 12 in the sole B whereby air is pumped into the shoe to relieve the perspiring foot within the shoe.

A valve 14 is at one end of the bellows E whereby air has ingress into the bellows, but the valve is closed when the bellows are compressed. Of course, the purpose of the valve 14 is to permit the air only to have passage through the tube

10 when the bellows are compressed, as by walking or shifting the weight of the body from one foot to the other foot.

The mechanism whereby the bellows are actuated and the means whereby the mechanism is attached to the shoe is preferably constructed as follows:

A U-shaped frame, generally designated as F, preferably constructed of metal, has parallel legs 16 and 18, and a cross member 19 connects the ends of the legs 16 and 18 together. The other ends of the legs 16 and 18 are formed as eyes to receive a pin or shaft 20, the latter passing through or being fastened to the sole B of the shoe, thus the U-shaped frame is pivoted about the pin 20.

A cross-bar 22 is spaced intermediate the ends of and attached to the legs 16 and 20 of frame F, and to the cross-bar are two trunnion-like projections 23, 24 which are pivotally connected to and actuate crank rocking levers 26, 28, respectively, the rocking levers being pivoted about a fixed pin 30 which is rigidly attached to the junction of the heel and shank portions of the shoe. A cross-bar 32 joins the free ends of the rocking levers 26, 28.

It is to be seen that the frame work is placed beneath the heel and the shank of the shoe so that the forward end of the frame F is pivoted at substantially the junction of the shank and the sole of the shoe. A pair of cross-bars 34 and 36 join the parallel legs 16 and 18 of the frame F and are adapted to support the bellows E. Shafts 20 and 30 are fixed in position and thus the entire frame work as well as the crank rocking levers 26 and 28 are pivotally connected.

Thus, as can be seen from Fig. 1, when the shoe is raised from the ground, the frame F is spaced from the bottom of the heel D, and when a pressure is exerted on the frame F, the frame F as well as the trunnions 22 and 24 move upwardly, thereby rocking the levers 26 and 28 so that the cross bar 32 moves downwardly compressing the bellows. The cross bars 34 and 36 move upwardly compressing the bellows upwardly, thus the bellows are compressed together forcing air through the tube 10 and into the shoe by virtue of the opening in the shoe. Air is drawn through the heel opening 38, and at one end of the opening is a valve 14 to permit the air to enter the bellows.

In other words, the invention operates as follows: After it has been suitably located upon the shoe, the frame F is adapted to oscillate as a person moves forwardly or backwardly or as the

person shifts their weight from one foot to the other. In other words, as a party walks, they shift their weight from one foot to the other foot, and when the weight is upon the particular shoe, the frame F contacts the heel D, thereby compressing the bellows by virtue of the rocking levers 26 and 28 as well as the tie rods 34 and 36. When a person shifts their weight from that particular foot, then the frame F drops away from the heel opening the bellows to draw in air, through the opening 38 and the valve 14. When the air is pumped from the bellows, it enters the tube 10, goes through the opening in the shoe 12 and into the forepart of the shoe, thereby cooling the foot.

Although my invention has been described in considerable detail, such description is intended as illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim as my invention:

In combination with a shoe an air cooling device for the interior of said shoe, said air cooling device comprising a frame pivoted on said shoe adjacent the junction of the shoe's sole and the shoe's shank, said frame extending to lie beneath the shoe's heel, a pair of rocking levers pivotally mounted on said shoe at the junction of the shoe's heel and shank, a bar joining the compressor arms of said rocking levers, a trunnion-like projection joining said frame and each of said rocking levers, a pair of bellows positioned between said frame and the bar joining the compressor arms of said rocking lever and beneath the shoe's shank, an air vent extending from said bellows into said shoe whereby said bellows will force cooled air into said shoe when the frame is actuated to move close to and away from the shoe's heel.

PETER ZIEGLISS