June 22, 1971 J. R. POLICHENA 3,585,736

HEATED BOOTS AND SHOES

Filed April 24, 1970

Fig. 1

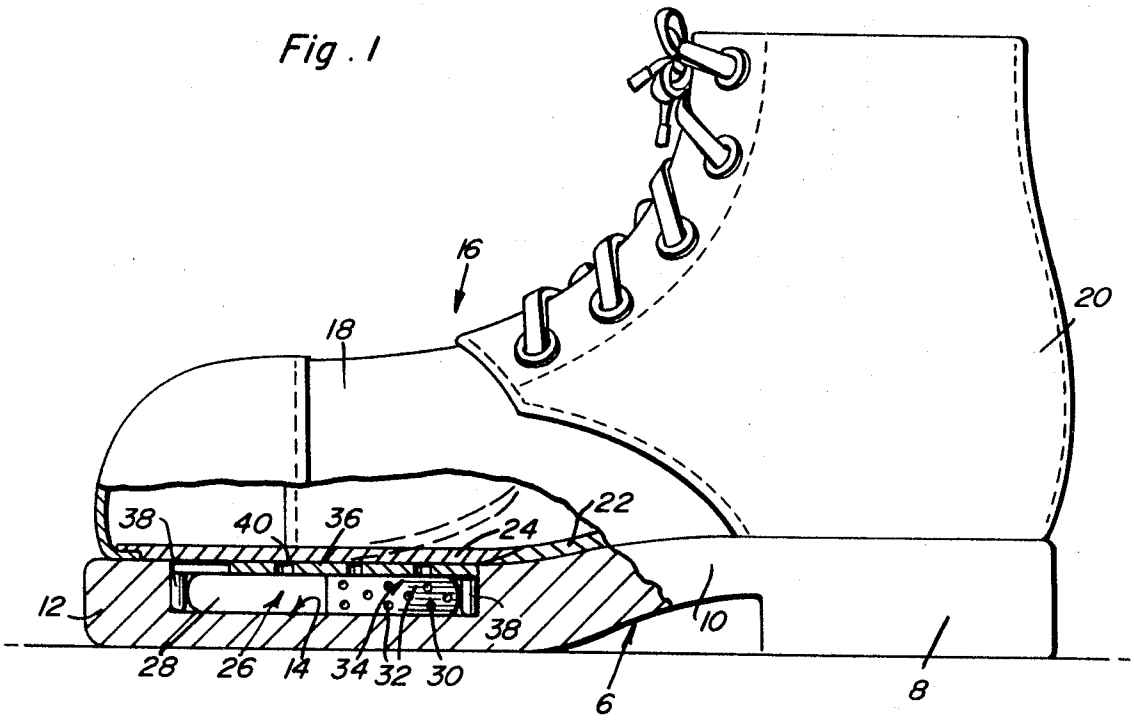


Fig. 2

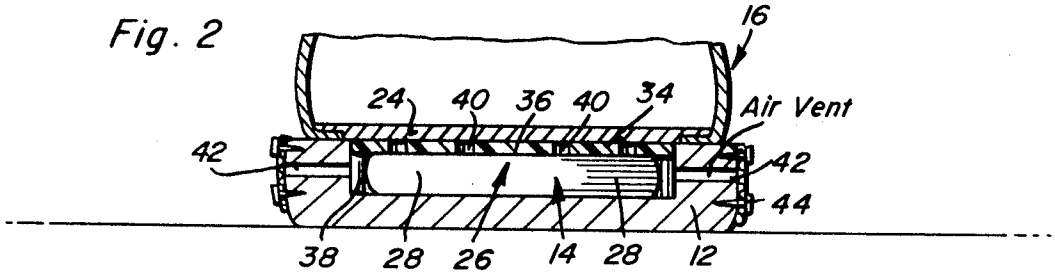
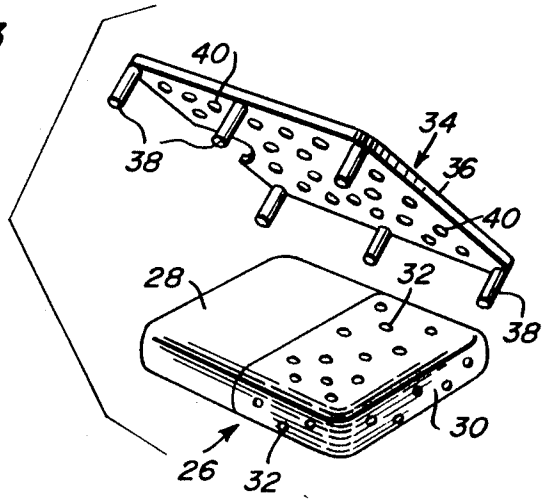


Fig. 3



Jeffery R. Polichena

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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HEATED BOOTS AND SHOES

Jeffery R. Polichena, 5450 Powdermill Road
Kent, Ohio 44240

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ABSTRACT OF THE DISCLOSURE

A self-contained heat generating and radiating foot warmer for use in a shoe or boot which has a relatively thick outsole. An upper enclosed surface of the sole is formed with an upwardly opening cavity providing a receiving pocket for said foot warmer. The foot warmer comprises a container with a perforated cap similar to a cigarette lighter and which is adapted to contain absorbent cotton or equivalent filler media saturated with regular ignitible lighter fluid. The warmer is fitted into and removable from the pocket. A trivet-type guard is located in the pocket and has corner legs fitting into the pocket and a perforated plate portion which overlies the foot warmer. It functions to distributively transfer the weight of the wearer's foot directly to the bottom of the pocket and prevents the foot warmer from being crushed.

The present invention relates to footwear which is expressly designed and adapted for outdoor use and pertains, more particularly, to that field of endeavor wherein the sole of a boot or shoe is provided with built-in heat generating and radiating means and particularly wherein the means is such in construction that it provides a relatively long lasting source of heat.

Persons conversant with the state of the art to which the present invention relates are aware that self-contained heating units, for example, hand and foot warmers are not new. This is to say, pocket-size hand warmers are generally old and well known. Then, too, heat generating and radiating self-contained units have been devised for incorporation in boots and shoes. Inasmuch as it may be of assistance to the reader in assessing the herein disclosed invention reference can be made to the self-contained heating unit disclosed in a patent to E. T. Behner, 2,680,918. Behner shows that it is not new to provide a cavity, recess or pocket in the sole of a shoe, preferably forwardly of the shank, for confinement of a bag or similar container charged with a chemical which, when wet, generates heat.

An object of the present invention is to improve upon Pat. 2,680,918 and any other known prior art adaptations and, in so doing, to advance the art and to provide a contribution to the art which, it is submitted, will meet with endorsement by prospective makers and retailers and will answer the needs of boots and shoes having built-in heating and foot comforting means.

Briefly, the concept comprehends an outdoor boot or shoe characterized by a heel and shank-equipped outsole, a complemental upper oriented with and cooperatively mounted atop the outsole and which in turn is provided with an interior insole and wherein the upper portion of the outsole forwardly of the shank has an upwardly opening cavity providing a special purpose pocket. A portion of the insole is arranged to span the mouth of the pocket and is so constructed as to permit access to be had to the pocket. The pocket is provided with a self-contained heat generating and radiating foot warmer unit. This unit is lodged and cooperatively confined in the pocket. More specifically the foot warmer is similar, generally stated, to a cigarette lighter which is characterized by a container with a removable cap and wherein the container

is provided with absorbent cotton and equivalent filler media capable of being saturated with ignitible lighter fluid. In order to protect the pocketed unit it is provided with a guard. More explicitly, the guard comprises a simple four-legged trivet embodying an apertured plate which overlies the unit and which is provided on marginal edges and at its respective corner portions with depending legs which rest on the bottom of the pocket and serve to transfer the weight of the wearer to the sole and to in this manner shield the unit.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a side view of a thick-soled shoe which is constructed in accordance with the principles of the invention and shows the built-in heat generating and radiating foot warmer and the protective guard which is associated therewith, certain of the parts being shown in section for clearness of illustration.

FIG. 2 is a transverse cross-section through the toe and sole portions of the shoe and showing the foot warmer in elevation and the guard in section.

FIG. 3 is an exploded perspective view showing the foot warmer and guard and how each is constructed for cooperative use.

With reference to FIGS. 1 and 2 the aforementioned "footwear" is exemplied here in the form of a shoe which comprises an outsole generally designated by the numeral **6** and embodying a heel **8**, shank **10** and sole proper **12**. A median centralized top portion of the sole is provided with a cavity or recess **14** defining a pocket of suitable shape and size which opens through the top of the sole **12**. The upper of the shoe is denoted at **16** and embodies, as usual, a toe box **18** and counter portion **20**. The insole is denoted at **22** and includes a plastic or an equivalent portion **24** which spans the top or mouth of the pocket and which is openable and closable as shown in full and phantom lines to permit access to be had to the pocket.

The self-contained heat generating and radiating foot warmer is denoted by the numeral **26** and comprises a capped container, similar in construction to a conventional type cigarette lighter and which is adapted to contain absorbent filler (not shown) saturated with ignitible lighter fluid. The container is denoted at **28** and the perforated cap is denoted at **30**, the same being provided with distributively arranged perforations **32** through which the heat rays are discharged when the wick (not shown) of the warmer has been ignited.

It may be properly reiterated here that the unit **26** is comparable with pocket-size hand warmers which are on the open market and which employ lighter fluid, are economically operable, can be purchased and are long lasting. It may be added however that, generally stated, ordinary marketed hand warmers are perhaps a little too large to be incorporated in a boot or shoe of the type herein under consideration and under the circumstances it will be within the purview of the concept to construct a warmer unit of the type shown at **26** and which is of a size to be fittingly confined within the limits of the pocket **14** as shown in FIGS. 1 and 2. By making the warmer slightly smaller than the perimeter limits of the pocket and of requisite cross-sectional dimensions provision is thus made for the use of a protective guard. This guard is denoted in FIG. 3 by the numeral **34** and it is in the form of a miniaturized trivet. More particularly it comprises a rigid rectangular or equivalent plate **36** of requisite thickness to occupy the position shown in FIG. 1 wherein it is interposed between the insole **24** and the top surface of the unit **26**. This plate is amply large that the support members thereon will func-

tion in the manner illustrated. This is to say, the marginal edges and corner portions of the underneath side of the plate are provided with stout depending legs (sometimes referred to as feet) and which are denoted at **38**. These legs surround the marginal portions of the unit **26** and rest on the bottom of the pocket. The plate is provided with a multiplicity of appropriately spaced orfices or ports **40** to permit the heat to radiate from the pocketed unit and to transfer its warming properties to the insole.

In order to more satisfactorily achieve the end results desired it is advisable and perhaps necessary to provide air intake means for the pocketed heater unit **26**. Ordinarily this is accomplished by providing opposite longitudinal edge portions of the sole with suitably elongated air vents **42**. The inner ends of the vents communicate with the pocket and the outer ends extend through the outer edge portions **44** and are covered by appropriately constructed mud, water and debris screens as brought out in FIG. 2.

In practice the heating unit **26** is dropped into the pocket after the mouth of the pocket has been opened for that purpose. It is then ignited for slow burning use. The trivet-type protector guard **34** is put in place to assume the position shown in FIGS. 1 and 2 after which the flap portion **24** of the insole is allowed to close in the manner illustrated in FIG. 1. The unit **26** is slow burning and long lasting and will serve the purposes for which it has been devised and used. Accordingly, a more extended description is believed to be unnecessary.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. Footwear, an outdoors boot or shoe for example, comprising a heel and shank-equipped outsole, a complemental upper oriented with and cooperatively mounted atop said outsole and provided interiorly with an insole, an upper portion of said outsole forwardly of the shank having an upwardly opening cavity providing a pocket, a portion of said insole spanning the mouth of said pocket and permitting the wearer to have access to said pocket, a self-contained heat generating and radiating foot warmer lodged and cooperatively confined in said pocket, and a trivet-type guard also located in said pocket and interposed between said foot warmer and underneath side of said portion of said insole, said guard functioning to distributively transfer the weight of the wearer's foot directly to said outsole and to protect the foot warmer against damaging pressure.

2. The footwear defined in and according to claim **1**, and wherein said foot warmer comprises a perforated capped container, similar to a conventional-type cigarette lighter and which is adapted to contain absorbent filler media saturated with ignitable lighter fluid.

3. The footwear defined in claim **2**, and wherein said foot warmer is proportional in size with the size of said pocket and is bodily insertable and removable, said guard comprising a rigid plate which protectively overlies said warmer, said plate having its marginal edge and corner portions provided with depending supporting legs.

4. The footwear defined in claim **2**, and wherein said foot warmer is proportional in size with the size of said pocket and is bodily insertable and removable, said guard comprising a rigid plate which protectively overlies said warmer, said plate having its marginal edge and corner portions provided with depending supporting legs, said plate being perforated, said legs being rigid and of a length commensurate with the depth of said pocket, whereby to locate said plate above but proximal to the level of the top of said container.

5. The footwear defined in and according to claim **1**, and wherein said outsole has opposite longitudinal edge portions provided with shielded air inlet vents having inner ends communicating with said pocket and outer ends opening through outward edges of said longitudinal edge portions.

6. For use in an outoors shoe or boot having a relatively thick outsole wherein an upper surface of the sole proper is formed with an upwardly opening cavity providing a special purpose pocket, a self-contained heat generating and radiating foot warmer of a size and shape that it can be placed and confined for use in said pocket, and a trivet-type guard separate from said foot warmer, said guard functioning to distributively transfer the weight of the wearer's foot directly to the bottom of said pocket and to prevent said foot warmer from being crushed or damaged.

7. The footwear defined in and according to claim **1**, and wherein said foot warmer comprises a perforated capped container, similar to a conventional-type cigarette lighter and which is adapted to contain absorbent filler media saturated with ignitible lighter fluid.

8. The footwear defined in claim **7**, and wherein said foot warmer is proportional in size with the size of said pocket and is bodily insertable and removable, said guard comprising a rigid plate which protectively overlies said warmer, said plate having its marginal edge and corner portions provided with depending supporting legs.

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PATRICK D. LAWSON, Primary Examiner