Jan. 24, 1967 H. C. ROBERTS ETAL 3,299,529

DRIER DEVICE FOR SKI SHOES AND THE LIKE

Filed April 2, 1964 2 Sheets-Sheet 1

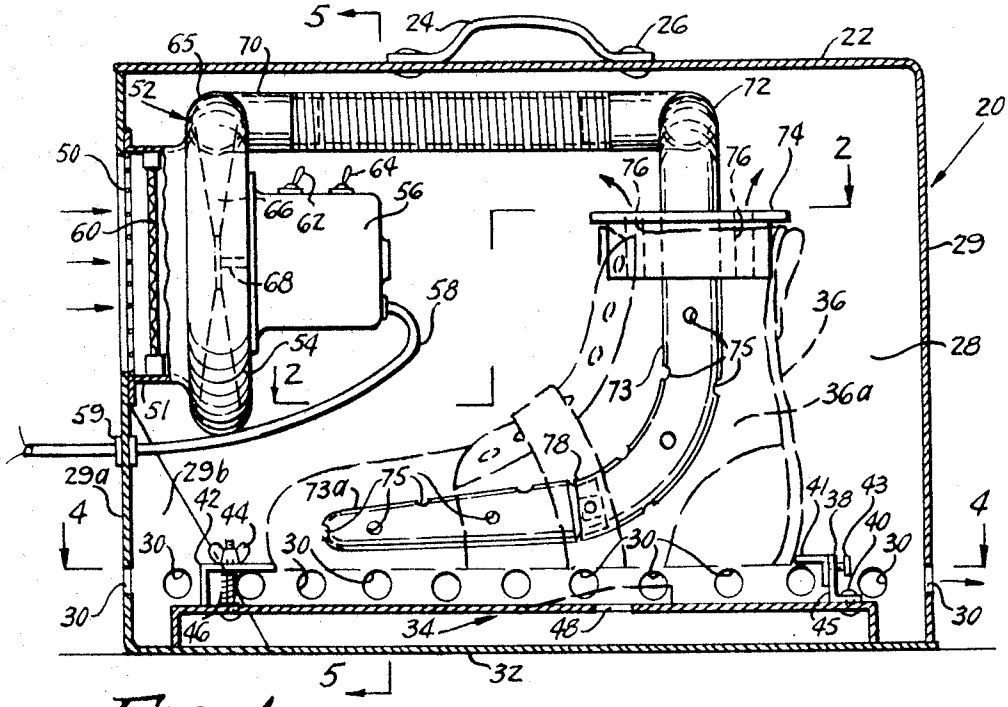

FIG. 1

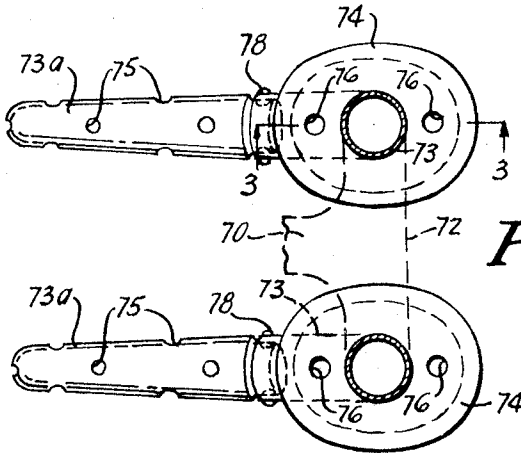

FIG. 2

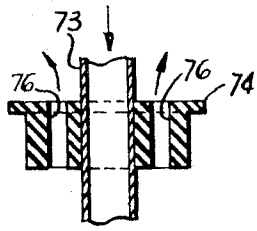

FIG. 3

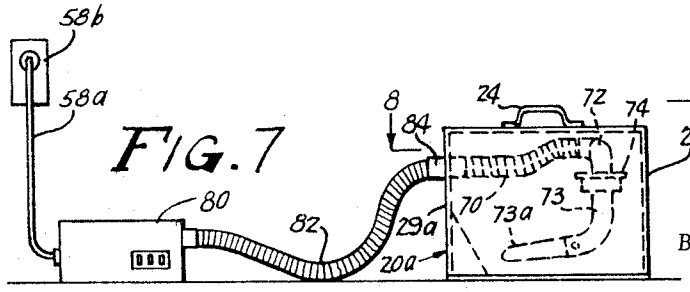

FIG. 7

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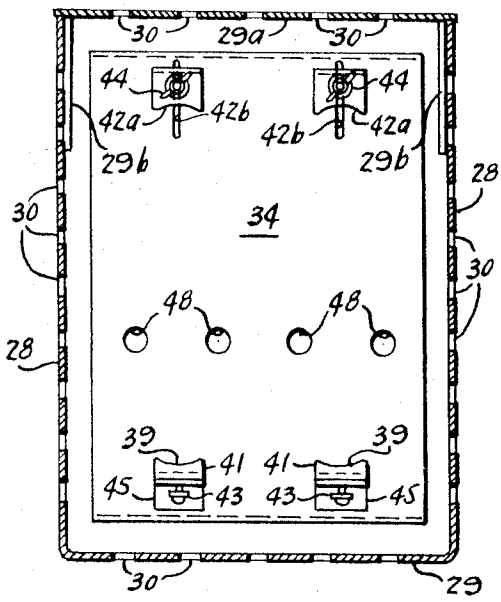


FIG. 4

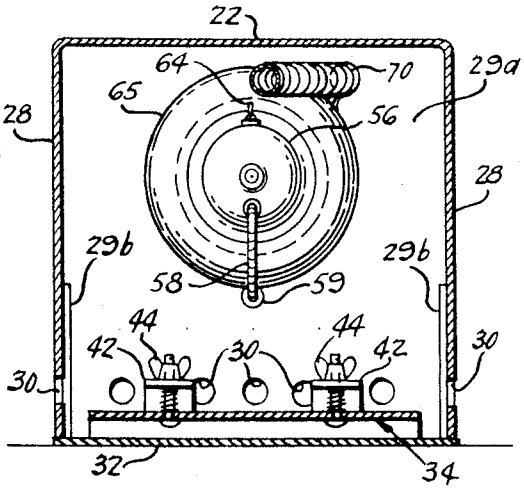


FIG. 5

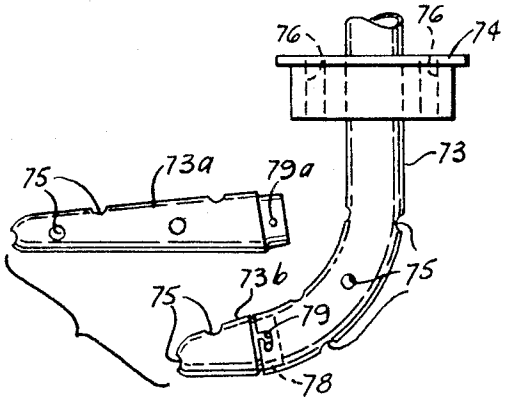
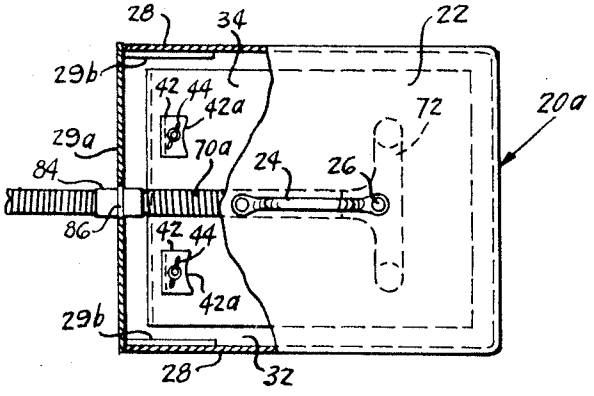


FIG. 8

FIG. 6



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DRIER DEVICE FOR SKI SHOES AND THE LIKE

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7 Claims. (Cl. 34—104)

This invention relates to drier devices for drying of shoes and boots, and more particularly, to a portable air drier device for drying wet ski shoes and the like, wherein the wet shoes are removed from the pair of skis and clamped into position in the drier device in the same form as worn in use.

A primary object of this invention is to provide an improved portable drier device for wet ski shoes and the like after use in which the shoes may be dried and formed to their original shape preparatory to further use.

Another object of the invention is to provide a portable drying device and container therefor wherein the positioning and clamping means of the drying enclosure fixedly clamps shoes and the like in proper form to dry and restore wet shoes to their natural shape for future use by the wearer.

A still further object of the invention is to provide a heated air drying enclosure which will uniformly dry both the inside and outside surfaces of a pair of boots and the like.

A further object of the present invention is to provide means whereby substantially all surfaces of the shoe are uniformly dried with rapidity and efficiency and wherein the drying operation restores the natural shape of the shoe without substantial distortion or stiffening of the shoe in the drying process for comfort to the wearer in future use of the shoe.

A still further object of the present invention is to provide a separate drier enclosure unit for boots and the like which may be quickly and selectively attached to a conventional hair drier unit for uniformly drying such articles for further use by the wearer.

Yet a further object of this invention is to provide a portable drying device to quickly and uniformly dry simultaneously a plurality of ski shoes or boots to their natural form and shape without stiffening and distortion of their shape.

A still further object of this invention is to provide a portable drying device for ski shoes which may be conveniently transported as one or more separate units from place to place on a ski transport line.

Still other objects of the invention reside in the combination of elements, arrangement of parts, features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings, wherein there is shown preferred embodiments of this inventive concept.

In the drawings:

FIGURE 1 is a vertical cross-sectional view through an exemplary embodiment of the boot drier of the instant invention with a self contained motor, a ski boot being shown in broken lines, and parts being sectionally broken away for illustrative clarity;

FIGURE 2 is a fragmentary cross-sectional view taken substantially on lines 2—2 of FIGURE 1 in the direction of the arrows;

FIGURE 3 is a fragmentary transverse cross-sectional view through the ski boot positioning collar or boot closure surrounding the heated air supply conduit, taken substantially on lines 3—3 of FIGURE 2, in the direction of the arrows;

FIGURE 4 is a horizontal cross-sectional view to a reduced scale taken on lines 4—4 of FIGURE 1, in the direction of the arrows;

FIGURE 5 is a transverse cross-sectional view taken substantially on lines 5—5 of FIGURE 1 in the direction of the arrows;

FIGURE 6 is a side elevational view of the boot positioning collar and the end section of the air supply conduit, an alternate end section also being shown;

FIGURE 7 is a side elevational view to a reduced scale of another embodiment of the boot drier of the instant invention, showing the same removably secured to a conventional hair drier unit; and

FIGURE 8 is an enlarged fragmentary top plan view of the air drier unit connected to the new drier enclosure of FIGURE 7 taken substantially on lines 8—8 of FIGURE 7 in the direction of the arrows, with parts broken away for illustrative clarity.

Referring in particular to the exemplary embodiment of the invention, as shown, in FIGURES 1 through 6, in which portable air drier container **20** is comprised of a securable and removable top means **22** with a carrying handle **24** secured thereto by rivet means or bolt means **26**, side means **28** and one end means **29** connected thereto with ventilation aperture means **30** therein, the container **20** further including bottom means **32** connected to an end means **29***a* and angle supports **29***b*, as shown, any conventional latch means (not shown) securing the top means **22** to the remainder of the container **20**.

Bottom means **32** is secured to a support and clamping means **34** for a pair of ski boots **36** indicated in broken lines of FIGURE 1. Support and clamping means **34** comprises rear clamping means **38** secured thereto by bolt or rivet means **40**, and front clamping means **42** secured to clamping and support frame means **34** by wing nut bolt means **44** and cushioning spring means **46**, as best shown in FIGURE 1. Clamping and support means **34** contains therein ventilation apertures **48**. Clamping means **38** and **42** may be used to adjust boot means **36** within enclosure means **20**.

The front end means **29***a* contains therein apertured air intake grill and screen means **50** operatively secured to the intake throat **51** of housing means **52** of fan means **54**, energized by motor means **56** connected to terminal means **58** passing through grommet **59** in end means **29***a* and adapted to be plugged into a suitable source of electricity (not shown).

Intake housing means **52** contains a heating element means **60** energized by switch means **62** of terminal means (not shown) from motor means **56**.

Motor means **56** is selectively energized by switch means **64** and terminal means **58**.

Housing means **52** of fan means **54** contains therein a cowl means **65** containing fan blade means **66** secured to shaft means **68** of motor means **56**, as best shown in FIGURE 1.

Cowl means **65** is operably connected by conventional connecting means to flexible reinforced hose means **70** which is intermediately connected to a dual ventilation horn means **72** which communicates by apertured means **75** in shoe form **73** having portions **73** and **73***a* by apertured boot closure or collar means **74** for substantially the full length of the inside chamber means **36***a* of boot means **36** allowing escape of the supply air therefrom through aperture means **76** of closure collar means **74**. Closure means **74** is adjustable up and down to fit shoes and boots with different heights of tops. Horn conduit portions **73** and **73***a* may be attached together by a press fit, telescoping joint means **78** with slot and detent means **79** and **79***a*, respectively, conventional screwed joint means or a suitable joint detent means with members **73** and **73***a* modified in length as member **73***b*, as shown in FIGURE 6.

Rear clamping means **38** comprises an arcuate portion **39** for adjustable clearance of angle portion **41** with the

side profile means of boot means **36**, and angle means **45** is adjustable secured by slot or other conventional means by screw bolt means **43** to angle means **41**.

Clamping means **42** also contains an arcuate portion **42***a* similar to arcuate surface **39** for positioning and clamping clearance with the ends of boot means **36**. Clamping means **42** is also adjustable by slot means **42***b* in clamping support means **34**, as best seen in FIGURE 4.

In FIGURES 7 and 8, fan **52** and motor means **56** of closure **20** have been replaced by a separate selectively energized portable motor and fan hair drier unit **80** connected by electrical cable energizing means **58***a* to an electrically energized outlet receptacle **58***b*, unit **80** comprising a flexible reinforced hot air supply conduit means **82** connected to a coupling sleeve means **84**, similar to a conventional vacuum hose joint.

Sleeve means **84** is secured in an aperture means **86** in end means **29***a* of portable container enclosure means **20***a*. Sleeve means **84** is adapted to be sealably connected to flexible hose means **70***a*, as best seen in FIGURE 8.

The modification of the invention as shown by FIGURES 7 and 8, is novel, in that the heavier fan and motor elements of the drier enclosure **20** above are removed therefrom in package form for convenience of portability, weight distribution, and possible use of an available conventional hair drier therewith at a saving in cost of the container dried enclosure **20***a*.

The lid means **22**, in both modifications of the invention, may be secured to enclosure means **20** by buckle strap means (not shown), hinge and hasp means or other conventional means, as desired.

In operation of the modification of the invention of FIGURES 1 through 6, boot means **36** may be placed in pairs or in plurality in closure means **20**, positioned and clamped in place therein, switches **62** and **64**, turned on, and lid means **22** placed tightly on closure means **20** and left for a predetermined time to dry boot means **36** after which boot means **36** may be removed from container means **20** and used immediately by the wearer.

The operation of the drying container **20***a* of FIGURES 7 and 8 is similar to the above modification of FIGURES 1 to 6, except hose member **70***a* is connected to the separately packaged and energized hair drier unit **80** instead of utilizing switch means **62** and **64** of FIGURE 1.

It is to be understood that the modifications of the present invention may be adapted for drying other articles, such as boxing gloves and the like, within the purview of this invention.

It is to be further understood that this invention is not restricted to drying a pair of boots, but may be used to dry a variety of articles as taught by the invention, as well as to thawing frozen foods and to uniformly warm a pair of boots prior to waxing or greasing the same for maximum efficiency in weatherproofing the boots.

From the foregoing it will now be seen that there is herein provided an improved portable air drier device for ski shoes and the like which accomplishes all the objects

of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made of the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

We claim:

1. An air drier device for uniformly drying ski boots and the like comprising an enclonure means, heated air supply means cooperating with said enclosure means, positioning and clamping means for securing at least one ski boot therein for drying, at least one apertured shoe form heated air supply conduit means extending substantially within the full length of said boot cooperating with said heated air supply means, and boot closure means for securing said air conduit form means within said boot, said boot closure means containing aperture means therein adapted for escape of heated air within said boot means.

2. An air drier device as in claim **1**, wherein said enclosure means is portable.

3. An air drier device, as in claim **1**, wherein said shoe form air conduit means is flexibly connected to said heated air supply means to prevent vibrations therefrom.

4. An air drier device, as in claim **1**, wherein said enclosure means comprises air intake means and air exhaust aperture means therefrom.

5. An air drier device, as in claim **1**, wherein said shoe form air supply conduit means comprises adjustable apertured conduit members to fit various sizes and shapes of boots.

6. An air drier device, as in claim **1**, wherein said heated air supply means comprises an energized portable external air heater and blower unit adapted to be flexibly connected to said heated air supply form conduit means within said boot.

7. An air drier device as in claim **1**, wherein said boot closure means is adjustably carried by said air conduit form means for accommodating boots of various heights.

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