# United States Patent

**Loofbourow**

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[54] **GOLF BALL HEATER**


[72] Inventor: **Donald I. Loofbourow,** 1590 Fernwood Dr., Lake Oswego, Oreg. 97034



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[52] **U.S. Cl.**.....**219/521,** 150/1.5 R, 219/386, 219/400, 219/430, 219/439, 273/62

[51] **Int. Cl.**.....**H05b 3/06**

[58] **Field of Search**.....219/430, 437, 439, 521, 524, 219/528, 535, 386–387; 206/46 B; 273/62; 150/1.5 R, 52 A



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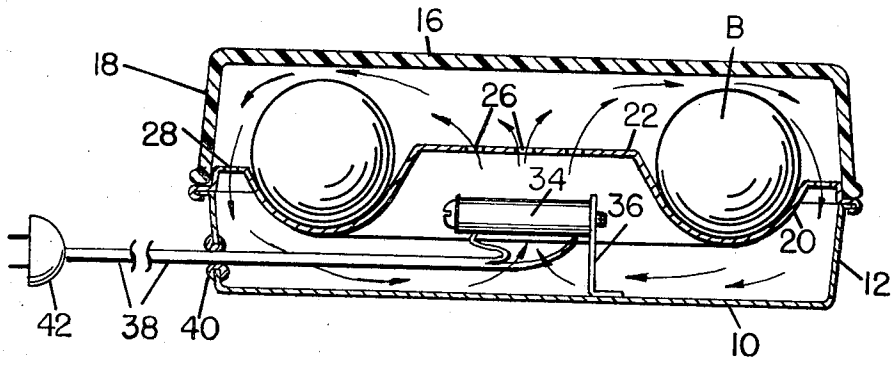
*Primary Examiner*—Volodymyr Y. Mayewsky
*Attorney*—Oliver D. Olson



[57] **ABSTRACT**

A hollow housing removably encloses a golf ball support spaced from the top and bottom ends of a housing. The golf ball support is provided with an annular trough for retaining golf balls, and the center and perimeter portions of the support are perforated to allow circulation of air within the housing relative to a heater located below the center portion of the support.


**7 Claims, 6 Drawing Figures**



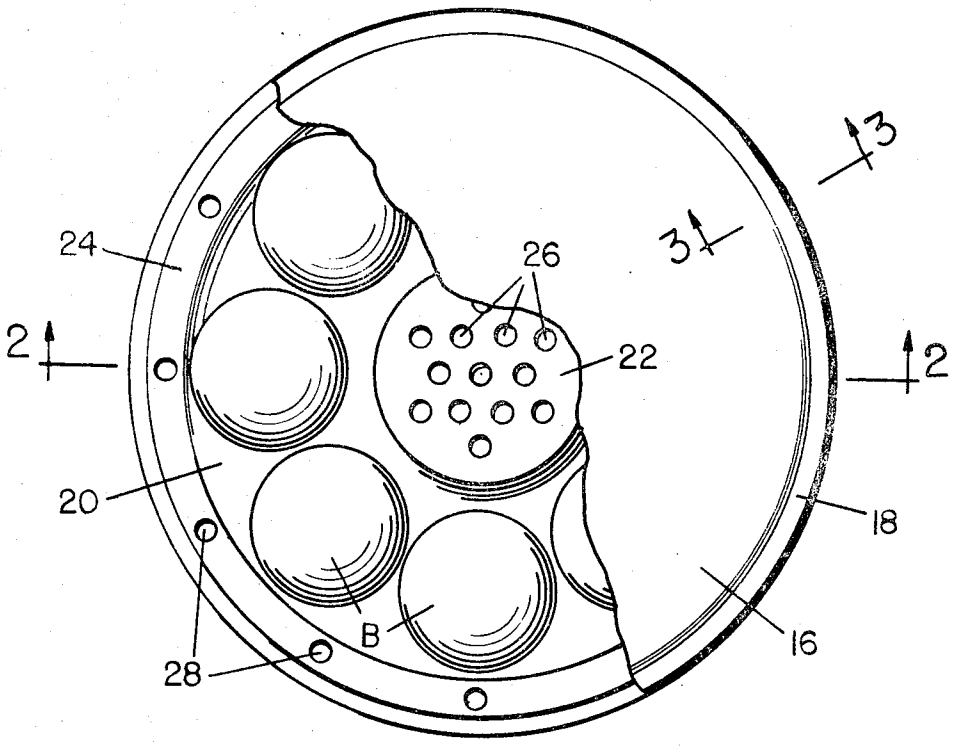



FIG. 1.

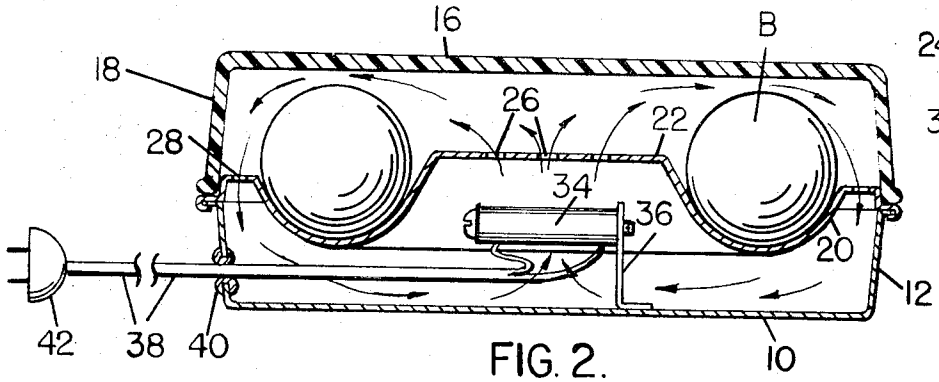



FIG. 2.

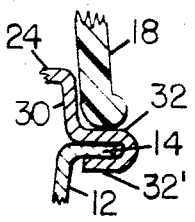



FIG. 3.

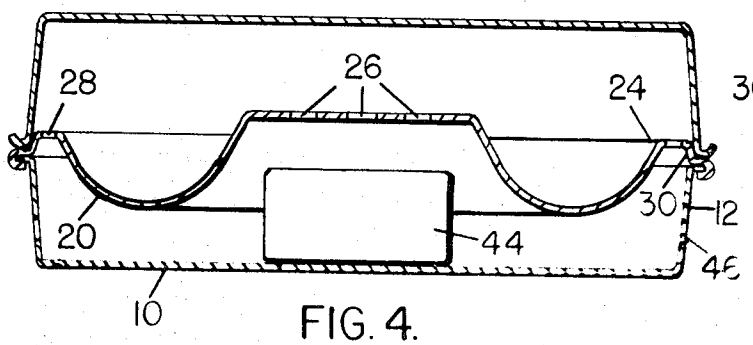



FIG. 4.

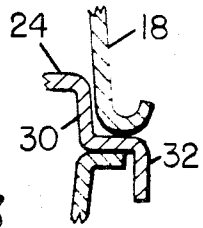



FIG 5

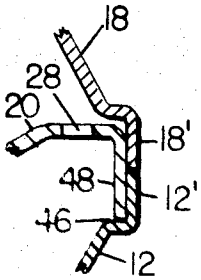



FIG. 6.

DONALD I. LOOFBOUROW
INVENTOR
BY Olive & Olson
AGENT

# GOLF BALL HEATER

## BACKGROUND OF THE INVENTION

This invention relates to the heating of golf balls, and more particularly to a heater by which to preheat golf balls preliminary to use.

It is known that warm golf balls travel further than cold ones when similarly struck with the same club. It is also known that golf balls should be warmed to about 105° F. for maximum effect, and that deterioration of golf balls occurs when stored at temperatures above about 125° F. Further, it is known that the proper warming of a golf ball uniformly through its mass requires storage at a temperature of about 110° F. for a time of about 2 days.

Golfers heretofore have attempted to warm golf balls by storing them in a warm place in the home, by heating them in a low temperature oven, by soaking them in hot water, by exposing them to sunlight, by carrying them in a pocket and by a variety of other equally inefficient means, all of which either fail to achieve or maintain the aforementioned temperature and time requirements, or are too costly and inconvenient.

## SUMMARY OF THE INVENTION

In its basic concept this invention provides a portable heater of simplified construction for the storage of golf balls in an atmosphere maintained at proper and uniform temperature for any desired period of time.

It is by virtue of the foregoing basic concept that the principal objection of this invention is achieved; namely, to overcome the aforementioned disadvantages associated with prior golf ball warming means.

Another important object of this invention is the provision of a golf ball heater composed of a minimum number of parts of simplified and therefore economical construction.

The foregoing and other objects and advantages of this invention will appear from the following detailed description, taken in connection with the accompanying drawings of preferred embodiments.

## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a plan view of a golf ball heater embodying the features of this invention, a portion being broken away to disclose details of internal construction.

FIG. 2 is a sectional view in vertical elevation taken along the line 2—2 in FIG. 1.

FIG. 3 is a fragmentary sectional view taken along the line 3—3 in FIG. 1.

FIG. 4 is a sectional view similar to FIG. 2 of a modified form of golf ball heater embodying the features of this invention.

FIG. 5 is a fragmentary sectional view similar to FIG. 3 showing the peripheral interconnection of the components of the golf ball heater shown in FIG. 4.

FIG. 6 is a fragmentary sectional view similar to FIGS. 3 and 5 showing still another modified form of peripheral interconnection of the components of a golf ball heater embodying the features of this invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the embodiment illustrated in FIGS. 1–3 the golf ball heater includes a hollow housing formed of two



parts; namely, a bottom section having a bottom wall 10 and an upstanding peripheral wall 12 terminating at its upper end in an outwardly projecting peripheral flange 14. The top section has a top wall 16 and a downwardly extending peripheral wall 18 proportioned to overlie the peripheral flange of the bottom section.

Both of the housing sections may be made of the same material, or of different materials. In the embodiment illustrated (FIG. 2) the bottom section is made of metal and the top section is made of synthetic thermoplastic or thermosetting resin.

The golf ball heater also includes a golf ball support adapted to be enclosed removably in the housing in spaced relation to the bottom and top walls 10 and 16, respectively. In the embodiment illustrated the support comprises a plate of heat conductive metal formed with an annular trough 20 intermediate a central portion 22 and a peripheral portion 24. The central portion is provided with a plurality of openings 26 and the peripheral portion is provided with a plurality of circumferentially spaced openings 28.

In the embodiment illustrated in FIGS. 1–3, the outer margin of the peripheral portion 24 of the support is formed to provide a downwardly offset peripheral section 30 adjacent the openings 28 and an outwardly directed reverse bend peripheral section 32, 32′ extending outward from the lower end of the section 30. The reverse bend section captures the outwardly projecting flange 14 of the bottom section of the housing, whereby to secure the golf ball support thereto. The lower edge of the peripheral wall 18 of the top section of the housing is received about the downwardly extending section 30 and rests upon the upper surface of the reverse bend section 32. The top portion of the housing thus is centered removably over the golf ball support.

Heater means is provided in the housing for maintaining the atmosphere within the housing at a predetermined elevated temperature, for example 110° F. In the embodiment illustrated in FIG. 2 the heater means comprises an electrical resistance element 34 supported under the central portion 22 of the golf ball support by means of a bracket 36 secured to the bottom wall 10. Electrical conductors 38 extend from the resistance element outward through an annular electrical insulation grommet 40 mounted in an opening in the peripheral wall 12 of the bottom section of the housing. The outer ends of the electrical conductors are connected to an electric plug 42 which is adapted to be connected to a source of electrical potential, such as conventional 110 volt, 60 cycle household current.

The electrical resistance heater element 34 is selected to maintain the atmosphere within the housing at about 110° F. This temperature is maintained substantially uniform throughout the interior of the housing by virtue of the openings 26 and 28 provided in the central and peripheral portions of the support. Thus, as indicated by the arrows in FIG. 2, air heater by the heater element rises upward through the openings 26 in the central portion 22 and then moves radially outward through the space between the top wall 16 and golf ball B retained in the annular trough 20, thence downward through the peripheral openings 28 and radially inward through the space between the bottom wall 10 and trough, back to the heater element. This doughnut

shape circulation of air insures the maintenance of substantially uniform temperature of the atmosphere within the housing and thus insures substantially uniform heating of all of the golf balls contained therein.

If desired, a thermostat may be included in the electric circuit of heater element **34**, in well known manner, further to insure the maintenance of desired temperature.

The golf ball support also is caused to be heated, both by radiant energy from the heater element and also by the circulating air current within the housing. The heated support thus functions to conduct heat directly to the golf balls, further to improve the efficiency of heating the latter. If desired, one or more of the internal surfaces of the housing components and the golf ball support may be blackened to enhance the absorption of heat for conductance of the golf balls.

As previously mentioned, the golf ball heater element is maintained in operative condition for at least about two days in order to insure complete warming of the golf balls through their entire mass. The golf balls then are removed from the unit in preparation of play, and they retain the heat for a substantial period of time, sufficient to complete a round of golf.

In the embodiment illustrated in FIGS. **4** and **5**, the electrical heater element **34** of the previous embodiment is replaced by a self-contained heater **44** of the hand warmer type. As is well known, this type of heater utilizes a combustible liquid fuel which must be replenished periodically. Accordingly the housing is provided with one or more openings **46** to supply sufficient air to support combustion of fuel in the heater.

In addition, it is necessary that the golf ball support be removable from the bottom section of the housing in order to gain access to the heater. To this end the portion **32** of the reverse bend section underlying the flange **14** (FIG. **2**) is omitted or straightened. Thus, the golf ball support is supported in properly centered position on the upper flange **14** of the bottom section of the housing, but is freely removable therefrom. The downwardly extending section **30** of the support functions to center the top section of the housing, as in the embodiment previously described. The top section of the housing is shown to be costructed of metal, although it may be constructed of plastic, as in FIG. **2**, or any other material desired.

FIG. **6** illustrates still another form of interconnection between the peripheral portions of the housing components and golf ball support. Thus, the adjacent portions **12'** and **18'** of the sides **12** and **18**, respectively, of the bottom and top sections of the housing are offset outwardly, defining a peripheral shoulder **46** therebetween. The peripheral portion **48** of the golf ball support, outward of the openings **28**, extends downward in frictional engagement with the inner surface of the offset portion **12'**, and rests upon the shoulder **46**. The support thus is secured frictionally to the bottom section of the housing. The top section of the housing is centered over the support and is secured to the latter removably, by frictional engagement of the inner surface of the offset portion **18'** with the outer surface of the peripheral portion **48** projecting upward from the offset portion **12'**.

Other forms of heaters may be substituted for the heaters **34** or **44**. For example, an electric light bulb may be mounted removably in a conventional light bulb socket secured to the bottom wall **10**, with the light bulb located under the central portion **22** of the golf ball support.

From the foregoing it will be appreciated that the present invention provides a golf ball heater of compact design and minimum number of components of simplified and therefore economical construction, which heater functions efficiently and economically to preheat golf balls uniformly throughout their mass to most effective temperature for maximum travel. The electrically heated unit illustrated in FIG. **2** may be used wherever conventional electric supply is available, such as in the home. The self-contained unit illustrated in FIG. **4** is adaptable for use in golf club lockers and other places where electric supply is not available.

It will be apparent to those skilled in the art that various changes in the size, shape, number, type and arrangement of parts described hereinbefore may be made without departing from the spirit of this invention.

Having now described my invention and the manner in which it may be used, I claim:

**1.** A golf ball heater, comprising

a. a hollow housing including relatively displaceable top and bottom sections provided with peripheral side walls having confronting peripheral edges and end closures at the ends opposite said confronting peripheral edges,

b. a golf ball support within the housing spaced from the end closures of the top and bottom housing sections,

c. the golf ball support having an annular golf ball retaining trough between a central portion and a peripheral portion of the support, and

d. heater means in the bottom section of the housing below the central portion of the support,

e. the central and peripheral portions of the golf ball support having openings therethrough for the circulation of air upward from the heater means through the central openings, thence radially outward and downward through the peripheral openings, and thence radially inward under the trough toward the heater means and mounting means outwardly of the openings in the perioheral portion of the golf ball support for supporting the latter on the bottom section of the housing.

**2.** The golf ball heater of claim **1** wherein the peripheral portion of the golf ball support has a substantially vertical peripheral section arranged to align said confronting edges of the housing sections.

**3.** The golf ball heater of claim **1** wherein the heater means comprises an electrical resistance heater secured to the bottom closure of the housing.

**4.** The golf ball heater of claim **1** wherein the heater means comprises a self-contained heater of the combustible fuel type.

**5.** The golf ball heater of claim **1** wherein the peripheral edge of the golf ball support is secured to the peripheral edge of the bottom section of the housing.

**6.** The golf ball heater of claim **1** wherein the peripheral edge of the golf ball support removably overlaps the peripheral edge of the bottom section of the housing.

7. The golf ball heater of claim 1 wherein the peripheral edge of the golf ball support frictionally engages the inner surfaces of the adjacent side wall portions of the top and bottom sections of the housing.

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