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SIMULATED CANDLE AND WICK HOLDER

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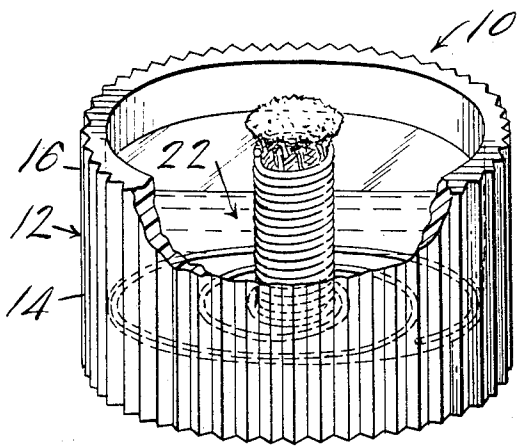


FIG-1-

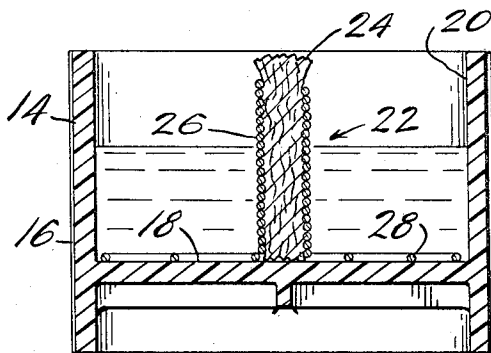


FIG-2-

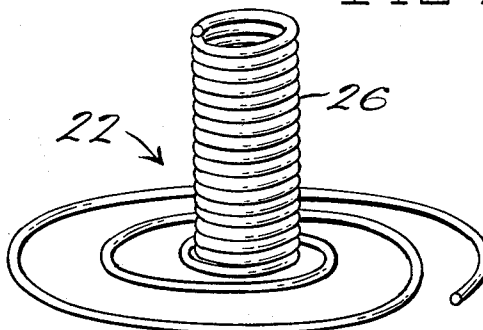


FIG-3-

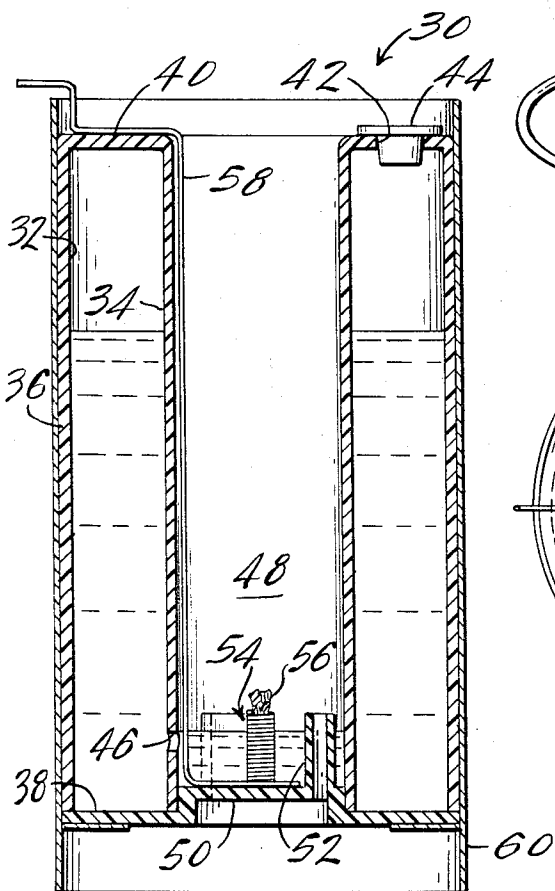


FIG-4-

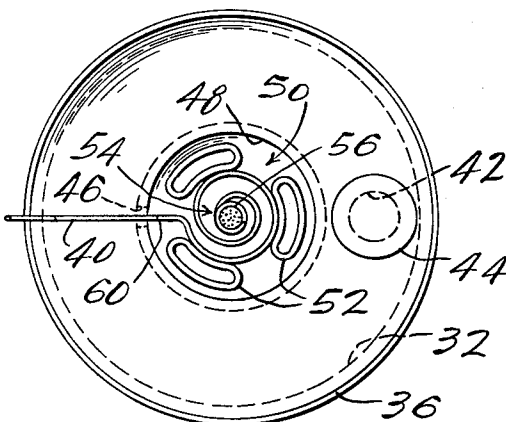


FIG-5-

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**SIMULATED CANDLE AND WICK HOLDER**

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Continuation-in-part of application Ser. No. 530,314,  
Feb. 28, 1966. This application Dec. 19, 1966, Ser.  
No. 602,715

10 Claims. (Cl. 431—310)

This application is a continuation-in-part of my appli-  
cation Ser. No. 530,314 filed Feb. 28, 1966, and now  
Patent No. 3,315,497, granted Apr. 15, 1967.

This invention relates to a device simulating a candle  
for burning combustible liquids and to a wick holder for  
holding and positioning a wick in such a device.

As disclosed in the aforementioned co-pending appli-  
cation, a device embodying the invention is particularly  
suitable for use with receptacles for holding food and  
drink, such as casserole dishes and carafes, to maintain  
the contents thereof warm. The device is capable of burn-  
ing low-cost combustible liquids, such as salad oil, to  
provide an inexpensive source of light and heat. Also, due  
to the fact that the device can burn combustible liquids  
which are transparent or at least light-transmitting, light  
is given off in all directions from the source of flame  
which further enhances the decorative effect of the device.

Also in accordance with the invention, an improved  
wick holder is contemplated, which holder is made from  
a single piece of wire. The wire is helically wound in a  
cylindrical shape to form a tube for the wick, with the  
wire extending outwardly at one end of the cylinder in  
an increasing radius and terminating in a generally cir-  
cular form to complete a base for the cylindrical portion  
of the wick holder. The wire wick holder can be made  
rapidly on automatic machinery and also inexpensively.  
Further, the circular base portion of the wick holder  
can constitute a locating device for centrally positioning  
the wick holder in a container for combustible fluids.  
The cylindrical portion of the wick holder serves to main-  
tain the wick in proper position and at proper height, to  
aid in regulating the length of the flame. With the turns  
of wire in the cylindrical portion maintained close to-  
gether, the wick is also prevented from burning below the  
top of the cylinder should the supply of liquid become  
exhausted.

Also in accordance with the invention, a device for  
burning liquids can be employed with a built-in annular  
reservoir for the liquid to enable the device to operate  
for substantially longer periods of time without refilling.

It is, therefore, a principal object of the invention to  
provide an improved device for burning combustible  
liquids.

Another object of the invention is to provide an im-  
proved low-cost wick holder for such a device.

A further object of the invention is to provide an im-  
proved wick holder having a cylindrical portion and a  
base portion all made of a single piece of wire disposed  
helically and spirally.

Yet another object of the invention is to provide a de-  
vice for burning a light-transmitting combustible liquid  
which is supplied from an annular reservoir surrounding  
the device.

Many other objects and advantages of the invention  
will be apparent from the following detailed description  
of preferred embodiments thereof, reference being made  
to the accompanying drawing, in which:

FIG. 1 is an overall view in perspective, with parts  
broken away, of a combustible liquid burning device em-  
bodying the invention;

FIG. 2 is a view in vertical cross section taken cen-  
trally through the device of FIG. 1;

FIG. 3 is a view in perspective of a wick holder ac-  
cording to the invention;

FIG. 4 is a vertical sectional view of a modified com-  
bustible liquid burning device embodying the invention  
in which an annular reservoir is provided for the com-  
bustible liquid; and

FIG. 5 is a top view of the device of FIG. 4.

Referring to FIGS. 1 and 2, a combustible liquid fuel  
burning device according to the invention is indicated at  
10. In a preferred form, the device 10 includes a receptacle  
12 made in one piece of polystyrene plastic material.  
The receptacle 12 has a sidewall 14 with a light diffusing  
outer surface 16 which can include a plurality of ridge-  
shaped surfaces which effectively diffuse the light trans-  
mitted through the wall 14. A bottom 18 is integral with  
the sidewall 14 and is located above the lower edge of the  
sidewall so that the lower edge provides, in effect, a sup-  
porting base for the device 10. The sidewall 14 and the  
bottom 18 define a combustible liquid chamber 20, the  
diameter of which exceeds its depth.

A wick holder 22 is located in the container 12 and  
supports a wick 24 with the upper end thereof located  
near a plane through the upper edge of the sidewall 14.  
The wick holder 22 constitutes a tubular or cylindrical  
portion 26 and a base portion 28 which are made of a  
single piece of wire. The wire is wound in a tight helix  
with adjacent turns in contact with one another to form  
the cylindrical portion 26, at the lower end of which the  
wire extends outwardly, substantially in a common plane,  
in a spiral of increasing radius which preferably finally  
terminates in a substantially circular turn to form the  
base 28.

The outer turn of the wire is preferably of a diameter  
slightly smaller than the diameter of the bottom 18.  
Hence, when the wick holder 22 is placed in the con-  
tainer 12, the outer turn of the base 28 will fit within the  
sidewall, at the periphery of the bottom 18, to help cen-  
trally locate the cylindrical wick holder portion 26 cen-  
trally with respect to the container 12. In this manner,  
no special provisions need be molded into the container  
12 to help receive and locate the wick. Further, with the  
holder made of the single piece of wire, the cost thereof  
can be maintained at a minimum. The wire, for example,  
can be galvanized soft wire of 0.030 inch diameter.

It is important in the cylindrical wick holder portion  
26 that the turns of wire be in contact or substantially in  
contact with one another because it has been found that  
if the wire is spaced apart to any extent, the wick can  
burn down below the top of the holder as the liquid is  
depleted and the level drops.

When the chamber 20 is filled with combustible liquid,  
as salad oil, the oil will be carried up the wick 24 from  
the bottom of the holder 26 where it will burn with a  
yellow flame at the top of the device. The light from the  
flame will be transmitted to the combustible liquid and  
through the sidewall 14 where it can be diffused by the  
surface 16 and provide an extremely attractive source  
of light.

The device is effective when used individually as a  
source of heat to maintain coffee in a carafe, for example,  
at an elevated temperature. Further, several of the devices  
can be used under a larger casserole dish to warm food  
therein. When the receptacle 12 is filled with oil to the  
top of the holder 26, the supply is sufficient to last for  
as long as four hours, even when the receptacle is only  
about one-and-three-eighths inch in diameter and about  
three-fourths inch deep.

By using salad oil as a combustible liquid, the fuel cost  
is very low. Further, the device itself is inexpensive,  
particularly when made of one-piece plastic material with  
the wick holder made of wire. Consequently, both the

fuel and the device are low in cost and have widespread applications.

When longer periods of combustion are desired, a combustible liquid fuel burning device indicated at 30 in FIGS. 4 and 5 can be employed. The device 30 includes an annular fuel chamber 32 formed by inner and outer sidewalls 34 and 36 along with a bottom wall 38 and upper annular wall 40. The upper wall 40 has an opening 42 selectively closed off by a stopper 44 through which the chamber 32 can be filled. A lower portion of the inner wall 34 of the reservoir has an opening 46 the upper edge of which is located at the level at which liquid is to be maintained in a central chamber 48. In this manner, combustible liquid can be supplied to the central chamber 48, which is formed by the inner sidewall 34 and a central portion 50 of the bottom wall. The bottom central portion 50 has three air tubes 52 extending upwardly therefrom to supply air to the chamber 48 for combustion. A slightly modified wick holder 54 supports a wick 56 slightly above the level of the liquid and near the upper ends of the air tubes 52. This holder is similar to the wick holder 22 except that the wick holder 54 has a handle 58 extending upwardly from the outer turn of the wire so that the holder can be removed, if desired, from the top of the device 30.

The entire device 30 can be held in and supported by a decorative metal grid supporting stand 60, if desired.

Various modifications of the above described embodiments of the invention will be apparent to those skilled in the art, and it is to be understood that such modifications can be made without departing from the scope of the invention, if they are within the spirit and tenor of the accompanying claims.

I claim:

1. A device for producing light and heat comprising a one-piece receptacle of light-transparent plastic material having a sidewall and a bottom of a predetermined size and shape for receiving a combustible liquid, a wick, and a wick holder comprising a cylindrical portion and a base, said cylindrical portion extending upwardly from the center of said base, and said base having a size and shape similar to the bottom of said container to maintain said cylindrical portion and said wick centrally in said container.

2. A device according to claim 1 further characterized by said cylindrical portion and said base of said wick holder both being made of a continuous, single length of wire, the wire in said cylindrical portion comprising a helix of a multiplicity of turns of the wire with each turn substantially in contact with adjacent turns and with one end of the wire terminating at the upper end of said cylindrical portion, the wire at the lower end of said cylindrical portion extending outwardly and terminating in an outer turn of a size and shape similar to the bottom of said container.

3. A device according to claim 2 characterized by said bottom of said container being circular, and the wire at the lower end of said cylindrical portion spiralling outwardly in an increasing radius and terminating in a substantially circular turn at a distance from the axis of the cylindrical portion which is substantially equal to the radius of said bottom.

4. A device according to claim 1 further characterized by additional means around said sidewall forming an annular liquid reservoir, with said sidewall having an opening therein at the level to which liquid is to be maintained in said container, for supplying liquid to said container from said reservoir.

5. A device according to claim 4 characterized further by the walls of said reservoir all being of a light-transmitting material.

6. A wick holder for receiving and holding a wick, said holder comprising a tubular portion and a base portion, both of which are made of a continuous, single length of wire, the wire in said tubular portion comprising a multiplicity of turns of the wire with each turn substantially in contact with adjacent turns and with one end of the wire terminating at the upper end of the tubular portion, the wire at the lower end of said tubular portion extending outwardly and terminating in an outer turn of a predetermined size and shape.

7. A wick holder according to claim 6 characterized by said tubular portion being cylindrical with the wire in said cylindrical portion comprising a helix, and the wire at the lower end of said cylindrical portion spiralling outwardly in an increasing radius and terminating in a substantially circular turn.

8. A device for emitting light and heat comprising a one-piece receptacle of light-transmitting plastic material having a sidewall of generally circular transverse cross-sectional shape, a circular, substantially planar bottom, a metal wick holder comprising a cylindrical portion and a base portion, said base portion having a diameter substantially equal to that of the bottom of said receptacle, whereby said base portion aids in maintaining said cylindrical portion centrally in said receptacle, and a wick in said cylindrical portion extending substantially the length thereof and protruding above the top of said cylindrical portion and substantially to a plane through the upper edge of said sidewall.

9. A device according to claim 8 characterized by said cylindrical portion and said base portion of said metal wick holder being made of a continuous, single length of wire, the wire in said cylindrical portion comprising a helix of a multiplicity of turns of the wire with each turn substantially in contact with adjacent turns and with one end of the wire terminating at the upper end of said cylindrical portion, the wire at the lower end of said cylindrical portion extending outwardly and terminating in an outer circular turn of a radius substantially equal to the radius of the bottom of said container.

10. A device according to claim 9 characterized further by the wire at the lower end of said cylindrical portion spiralling outwardly in an increasing radius and terminating in the outer circular turn.

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