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NON-COMBUSTIBLE WICK

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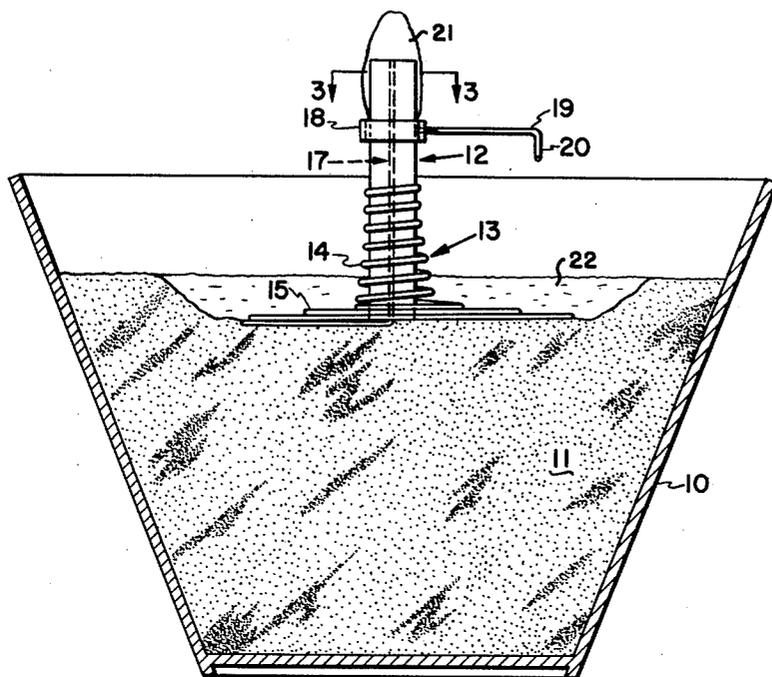


Fig. 1

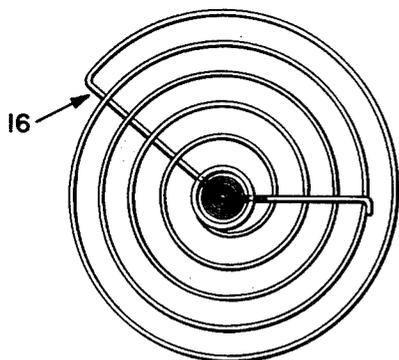


Fig. 2



Fig. 3

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3,121,316

NON-COMBUSTIBLE WICK

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This invention relates to a non-combustible wick which can be used repeatedly with combustible material. Particularly, the invention relates to a wick unit which can be placed on top of a body of wax, or like solid combustible material, to form a simulated candle thereby eliminating the need for a pre-inserted wick.

Conventional candle manufacture includes appropriate means of inserting a combustible wick into the wax candle. This may consist of mechanical insertion of the wick into the wax body, or controlled molding of the wax around the wick, both of which necessarily add to the complexity and expense of candle manufacture.

One object of the present invention is to eliminate the need for the pre-inserted wick in wax candles to thereby simplify candle manufacture. A further object is to provide a simple means of transforming a body of wax into a convenient source of light and heat. Still other objects will become apparent from the following detailed description which includes a preferred embodiment of the invention.

The invention will be better understood by reference to the accompanying drawing wherein:

FIGURE 1 is a front view of the device of the invention in burning position atop a wax block,

FIGURE 2 is a top view of the device, and

FIGURE 3 is a cross-sectional view taken along the lines 3-3 of FIGURE 1.

In FIGURE 1, a container 10 holds the solid wax block 11, said container being provided to hold the wax as it melts.

A wick 12 is formed of a non-combustible, preferably porous material, e.g. asbestos paper which has been wrapped around itself so as to form a roll which can support its own weight without bending or falling.

A wick holder 13 includes a wire coil having a helical portion 14, encircling and fitting snugly around the lower part of the wick 12, thereby forming a receptacle for holding the wick. The helical portion 14 flattens out laterally at the bottom of the wick 12, into concentrically increasing spirals, thereby forming a spiral base 15, to support the wick. The outer diameter of said spiral base is preferably equal to the smallest diameter of the container 10. A horizontal radial section 16 extends inwardly from the outermost end of said spiral base 15, as shown in FIGURE 2, and joins with a vertical portion 17, originating from the center of the coil base 15. This vertical portion 17 extends upwardly through the helical portion 14, and the wick 12, so as to be contained within said wick.

A flame control sleeve 18, closely fitting around the wick 12, is held in place by a suitable clamping means, e.g. a set screw 19, having the handle 20.

The wick 12 is preferably impregnated with a combustible material prior to its first use. Impregnation can be accomplished simply by dipping the wick into a suitable material, such as molten petroleum wax or any other petroleum product.

In the actual operation of this invention, the impregnated wick 12 is ignited. The flame 21 moves down the wick as it consumes the fuel held in the porous structure of the wick. The heat from the flame 21 is conducted

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down the vertical wire portion 17, contained within the wick, through the horizontal radial section 16, to the flattened spiral base 15, and finally to the body of wax 11, thereby causing the wax to melt, which in turn forms a pool of molten wax 22 equal to or greater than the size of the flattened spiral base. The liquid wax is then continuously drawn up through the porous structure and the vertical passages of the rolled wick 12, by capillary action, until it reaches the flame 21 and is consumed.

The flame 21 originates from the exposed portion of the wick at the top of the flame control sleeve. This sleeve may be positioned so as to regulate the size of the flame. For example, a small flame may be obtained by raising the control sleeve close to the top of the wick thereby leaving a small area exposed to the oxygen of the air.

As the pool of wax 22 on the surface is depleted, new material will melt according to the heat transfer between the wire, the molten wax, and the solid wax. The wire wick holder will gradually sink as the solid wax melts, until all the wax has been consumed by the flame. When the flame is extinguished the wick will be thoroughly permeated with the molten wax and can be subsequently used repeatedly without the impregnation originally required.

An advantage of this invention is that the wick unit, being non-combustible, can be used repeatedly without being destroyed. Another advantage is that the wick unit can be placed on any flat surface body of wax to provide a source of illumination and heat, without regard to size or shape of the body of wax. The invention can be used, for example, in wax filled smudge pots thereby eliminating the handling problems connected with the use of liquid fuels in such applications. The smudge pots may be conveniently filled with solid wax, and the wick unit simply placed on the top of the wax and ignited.

What is claimed is:

1. In combination with a wax block, a candle wick unit supported by said block, said wick unit comprising a rolled wick of non-combustible fiber and a metallic holder for said wick, said holder consisting essentially of a unitary wire member wound into a spiral to form a substantially horizontal base which rests atop said wax block and continuing from the central portion of said spiral as a helix rising from said base and embracing said wick, and a flame control sleeve detachably attached to said wick and capable of being positioned at any point along said wick.

2. In combination with a wax block, a candle wick unit supported by said block, said wick unit comprising a rolled wick of non-combustible fiber and a metallic holder for said wick, said holder consisting essentially of a unitary wire member wound into a spiral to form a substantially horizontal base which rests atop said wax block and continuing from the central portion of said spiral as a helix rising from said base and embracing said wick.

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