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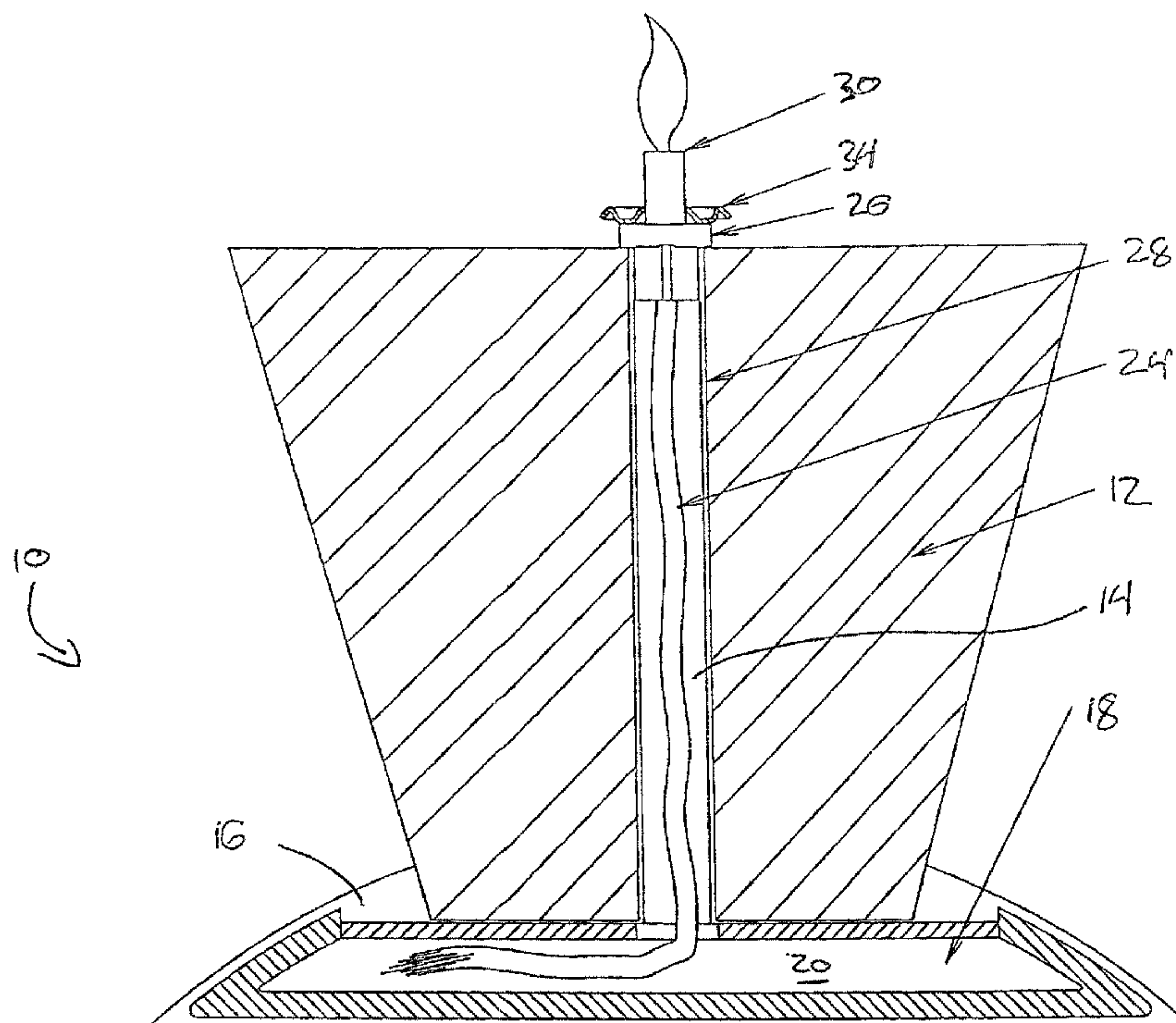
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(54) Titre : BOUGIE A COMBUSTIBLE LIQUIDE

(54) Title: LIQUID FUEL CANDLE



(57) **Abrégé/Abstract:**

Provided is a liquid fuel candle comprising a wax body with a hollowed core, a base defining a reservoir for storage of liquid fuel attached to one end of the wax body, an insulator attached to the other end of the wax body, and a wick threaded through the hollowed core and communicating at one end with the liquid fuel and at the other end with the insulator. The base may be formed and dimensioned to resemble a conventional candle holder, and since the liquid fuel is stored within the reservoir provided by the base, the wax body may be very slender and thin without compromising candle burn time. A diffuser ring may be associated with the insulator for evaporation and dispersion of scented oils. More than one wax body, wick and insulator may be associated with a single base.

Abstract of the Disclosure

Provided is a liquid fuel candle comprising a wax body with a hollowed core, a base defining a reservoir for storage of liquid fuel attached to one end of the wax body, an insulator attached to the other end of the wax body, and a wick threaded through the hollowed core and communicating at one end with the liquid fuel and at the other end with the insulator. The base may be formed and dimensioned to resemble a conventional candle holder, and since the liquid fuel is stored within the reservoir provided by the base, the wax body may be very slender and thin without compromising candle burn time. A diffuser ring may be associated with the insulator for evaporation and dispersion of scented oils. More than one wax body, wick and insulator may be associated with a single base.

LIQUID FUEL CANDLE

Field of the Invention

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The present invention relates to candles, and in particular to reusable liquid fuel candles having a wax body that is not consumed during use.

Background of the Invention

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It is well known that the burning of conventional paraffin or other wax candles involves the liquefaction, deformation and consumption of the candle itself. The expectation of such deformation and consumption may make it difficult to decide whether or not to light a conventional wax candle, particularly in the case of expensive ornamental candles. Liquified wax also frequently runs down the sides of lit conventional wax candles, thereby creating a mess, and potentially damaging furniture or even constituting a fire hazard. It is, of course, also well known that conventional wax candles are normally secured on candle holders in order to ameliorate these latter hazards and disadvantages (and in many cases also to enhance the aesthetic appearance of the candle), but it nevertheless remains that conventional paraffin or other wax candles are deformed and consumed during use.

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Liquid fuel candles that are fashioned to appear like conventional wax candles while for the most part avoiding the principal drawback of conventional wax candles (namely the consumption of the candle itself during use) are also known. Canadian Patent No. 2,125,118 to Maclea *et al.*, entitled Reusable Candle, discloses a liquid fuel candle that has a hollowed core at one end for receiving an internal reservoir and wick structure that is refillable with a liquid fuel. The body of the candle (that surrounds the internal reservoir) is made of wax so that the liquid fuel candle of Maclea may resemble a conventional wax candle, and so that it may be secured on a candle holder in the same way as would be a conventional wax candle.

Although liquid fuel candles of the kind disclosed by Maclea may address the deformation and consumption issues inherent to conventional wax candles, it has been found that the placement of the liquid fuel reservoir within the core of such liquid fuel candles presents new difficulties. In particular, the volumetric capacity of the internal fuel reservoir is necessarily limited relative to the size of such candles. This limits the burn time of a given prior-known liquid fuel candle between refills, and also effectively precludes the creation of particularly slender liquid fuel candles of this sort. Additionally, refilling the fuel reservoir of a liquid fuel candle of the sort disclosed by Maclea is messy and prone to spillage, and spilled liquid fuel may ruin the finish of the wax body of the candle or surrounding articles.

It is accordingly one object of the present invention to provide a reusable liquid fuel candle that looks like a conventional candle, but that avoids the drawbacks of conventional wax candles and known liquid fuel candles discussed above.

Summary of the Invention

In accordance with one aspect of the present invention, there is provided a liquid fuel candle comprising a wax body having a hollowed core, and a base releasably or permanently associated with the wax body at one end thereof. The base is formed and dimensioned to resemble a conventional candle holder, and defines a reservoir within which liquid fuel may be stored. A wick threaded through the hollowed core of the wax body communicates at one end with the liquid fuel within the base, and projects at its second end slightly beyond the top of the wax body, where it is situated within an insulator that prevents the wick from contacting the outer surface of the wax body. In some embodiments, the insulator is embedded into the top of the wax body, but the insulator may also simply be held in position atop the wax body by gravitational force or by other means.

The liquid fuel is drawn by capillary action into the wick, and the insulator prevents the flame from liquefying or consuming the wax body when the second end of the

wick is lit. Since the liquid fuel is stored within the reservoir provided by the associated base (and not within the wax body as in prior known liquid fuel candles), the wax body may be very slender and thin without compromising burn time. Overall burn time may also be enhanced relative to prior-known liquid fuel candles as the reservoir within the base can readily be made quite large without compromising the aesthetic qualities of the inventive liquid fuel candle.

In embodiments of the invention where the wax body is permanently associated with the base, the base preferably also includes a re-sealable opening through which the reservoir may be safely re-filled without risking the spillage of liquid fuel over the wax body.

The insulator may preferably be constructed of a material having a high specific heat capacity in order to lessen the transfer of heat through to the wax body, and may in some embodiments include or be associated with a conduit formed of a separate heat resistant material (such as glass) surrounding the wick at or near its second end. In such embodiments, the interposition of the heat resistant conduit between the flame and the insulator avoids or lessens possible heat damage to the insulator during use of the liquid fuel candle. In some embodiments, the insulator also includes grooves or channels cut therethrough to permit air to communicate between the outside atmosphere and the liquid fuel reservoir to eliminate possible vapour lock.

In some embodiments, a diffuser ring or tray into which scented aromatherapy oils or the like may be placed (so as to diffuse into the air) may be affixed to or associated with the insulator. In use, the heat generated by the nearby flame accelerates the evaporation and dispersion of the scented oil.

The wick may be formed of fibreglass fibres or other suitable materials, and in some embodiments may be surrounded by a housing placed into the hollowed core of the wax body. Such wick housing may help prevent possible contamination of the wax body with the liquid fuel, and may also help to insulate the wax body from heat generated

when the wick is lit.

In other embodiments, the liquid fuel candle may comprise more than one wax body, wick and insulator associated with a single base, thereby to give the visual effect of an arrangement of conventional wax candles set upon an elaborate candle holder. In such embodiments, a single reservoir of liquid fuel may be shared among several wax bodies and flames.

Brief Description of the Drawings

Figure 1 is a front elevational cross-section of a liquid fuel candle in accordance with one embodiment of the present invention;

Figure 2 is a partial side elevational cross-section of the liquid fuel candle of Figure 1; and,

Figure 3 is an enlarged cross-sectional view of the insulator of the liquid fuel candle of Figure 1.

Detailed Description of Preferred Embodiments

Referring to the Figures, the liquid fuel candle 10 comprises a wax body 12 defining a hollowed core 14. The wax body 12 is attached releasably or permanently to base 16 at one end of the wax body 12, and the base 16 is formed and dimensioned to resemble a conventional candle holder. Base 16 defines a reservoir 18 within which liquid fuel 20 may be stored, and also includes a re-sealable filling hole 22 in embodiments (as shown) where the wax body 12 and base 16 are permanently attached to one another.

A wick 24 preferably formed of fibreglass fibres is threaded through hollowed core 14 of wax body 12, and communicates at one end with liquid fuel 20 within base 16. At its second end, wick 24 projects slightly beyond the top of wax body 12, and is there

situated within an insulator 26 that prevents wick 24 from contacting the outer surface of wax body 12. Housing 28 separates wick 24 from hollow core 14 of wax body 12 in order to avoid possible contamination of wax body 12 with the liquid fuel 20. In the illustrated embodiment, insulator 26 is constructed of a material having a high specific heat capacity in order to lessen the transfer of heat through to the wax body, and includes glass conduit 30 that surrounds wick 24 at or near its second end. The interposition of conduit 30 between the second end of wick 24 and insulator 26 helps to avoid possible heat damage to insulator 26 when wick 24 is lit, and also serves to crimp wick 24 in order to tidy the flame produced when wick 24 is lit. Insulator 26 also includes grooves 32 (best seen in Figure 3) to permit air to communicate between the outside atmosphere and liquid fuel reservoir 18 to eliminate possible vapour lock. Optional annular diffuser ring 34 into which scented aromatherapy oils or the like may be placed (so as to diffuse into the air when the liquid fuel candle is lit) sits atop insulator 26, and surrounds conduit 30.

As will be apparent to those skilled in the art in the light of the foregoing disclosure, many alterations and modifications are possible in the practice of this invention without departing from the spirit or scope thereof. Accordingly, the scope of the invention is to be construed in accordance with the substance defined by the following claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are:

1. An liquid fuel candle comprising;
a wax body having a hollowed core;
a base associated with one end of the wax body in communication with the hollow core, the base defining a reservoir for storage of liquid fuel;
an insulator associated with the other end of the wax body in communication with the hollowed core for holding a wick and preventing the wick from contacting the outer surface of the wax body; and,
a wick threaded through the hollow core of the wax body, the wick communicating at one end with the liquid fuel within the base, and at the other end with the insulator.
2. The liquid fuel candle of claim 1, wherein the base further comprises a re-sealable aperture for filling of the reservoir with liquid fuel.
3. The liquid fuel candle of claim 1, wherein the insulator is constructed of a material having a high specific heat capacity.
4. The liquid fuel candle of claim 1, wherein a heat resistant conduit is interposed between the wick and the insulator.
5. The liquid fuel candle of claim 1, further comprising a diffuser associated with the insulator for holding scented fluids.

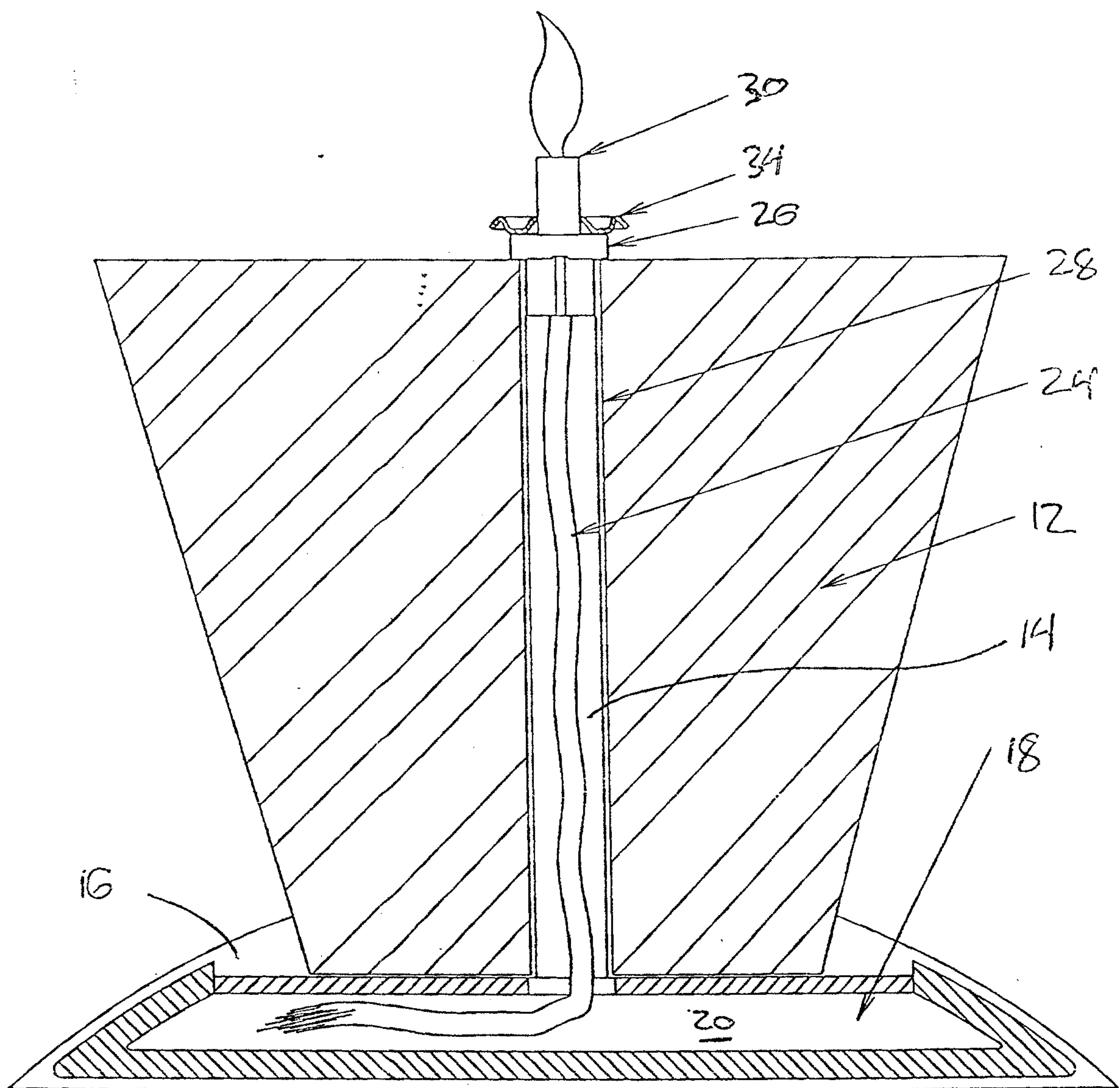


Figure 1

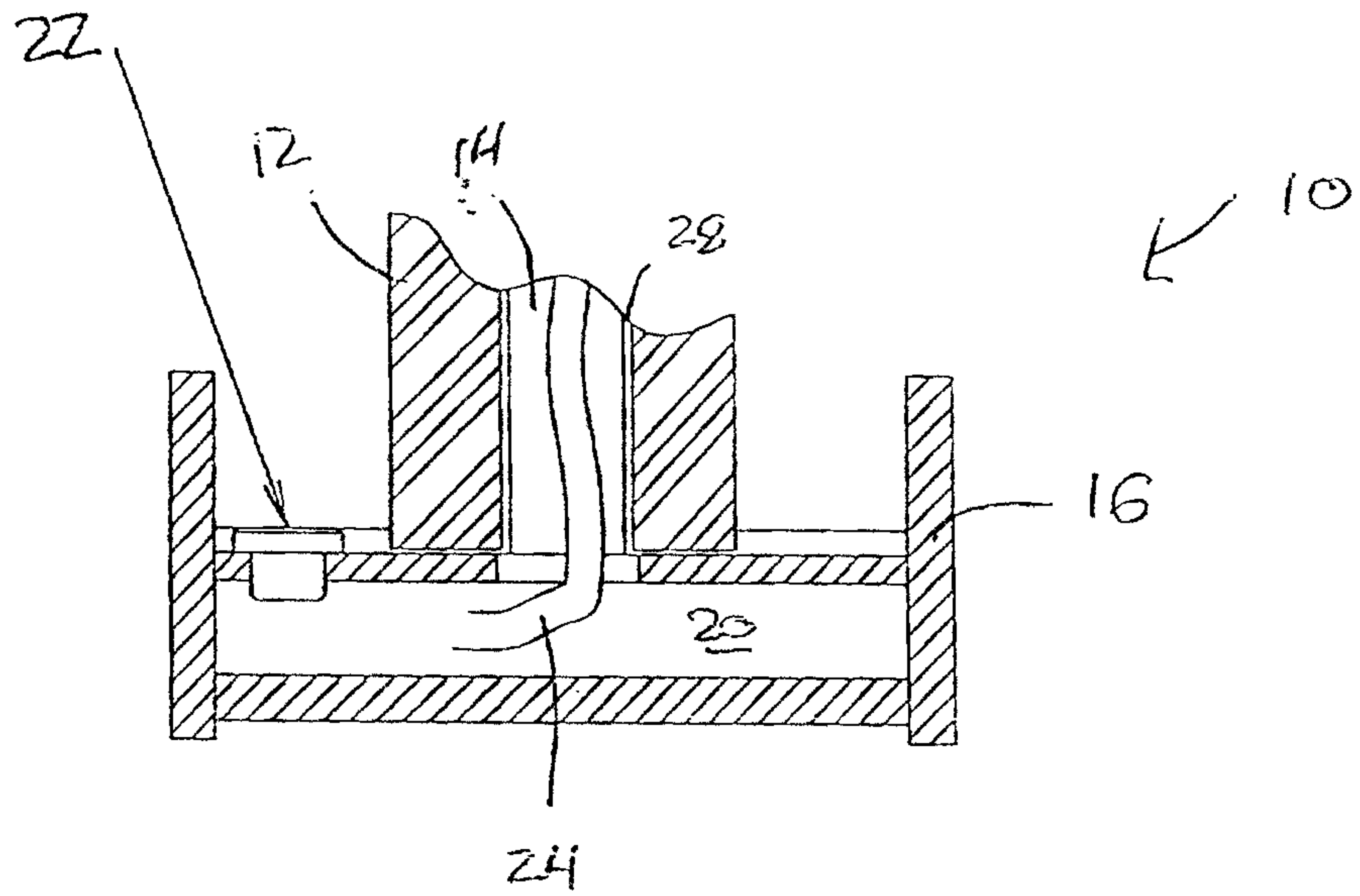


Figure 2

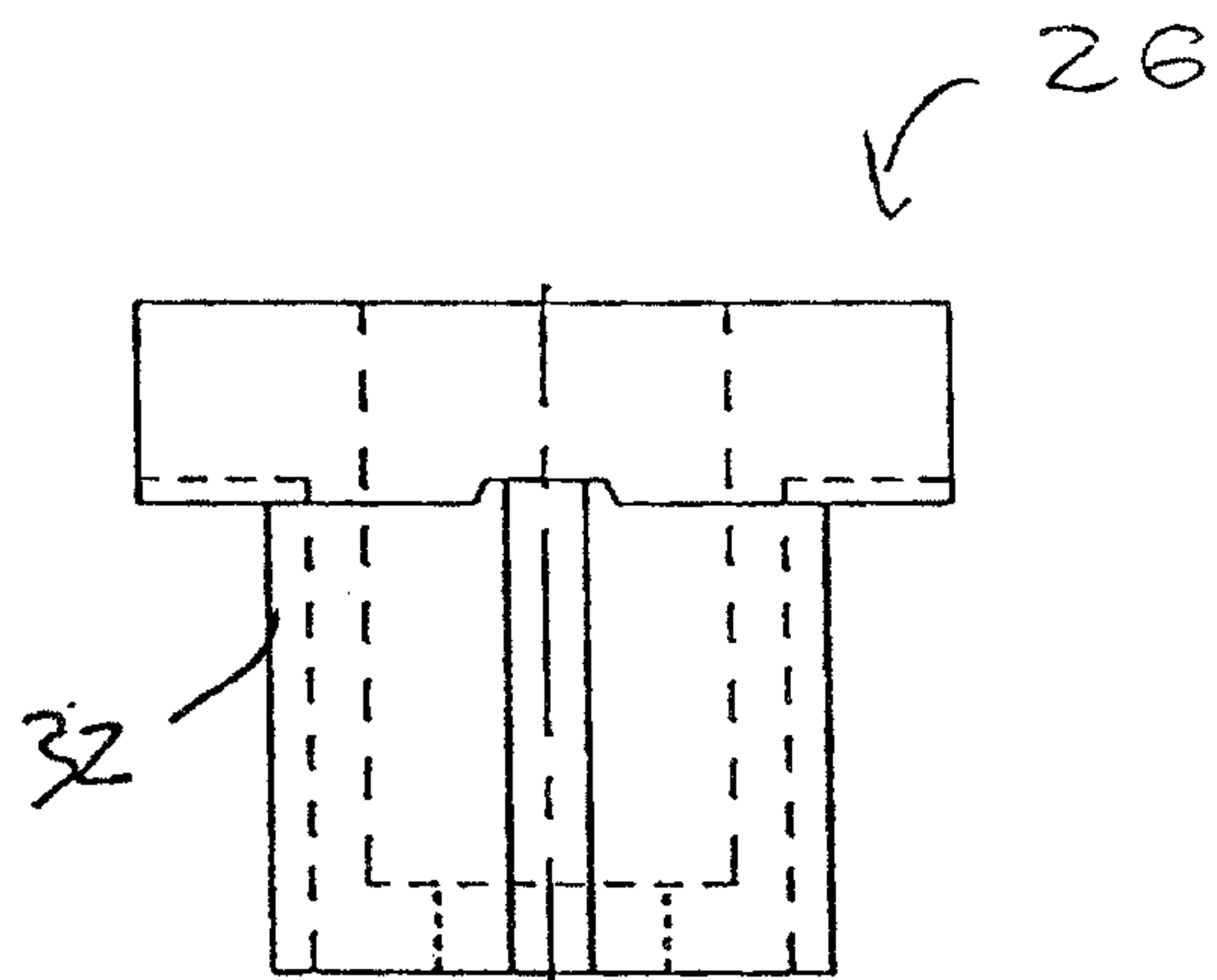


Figure 3

