(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 388 503 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.10.2018 Bulletin 2018/42

(51) Int Cl.:
C11C 5/00 *(2006.01)* ***C11C 5/02*** *(2006.01)*

(21) Application number: **18165642.2**

(22) Date of filing: **04.04.2018**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **11.04.2017 ES 201730615**

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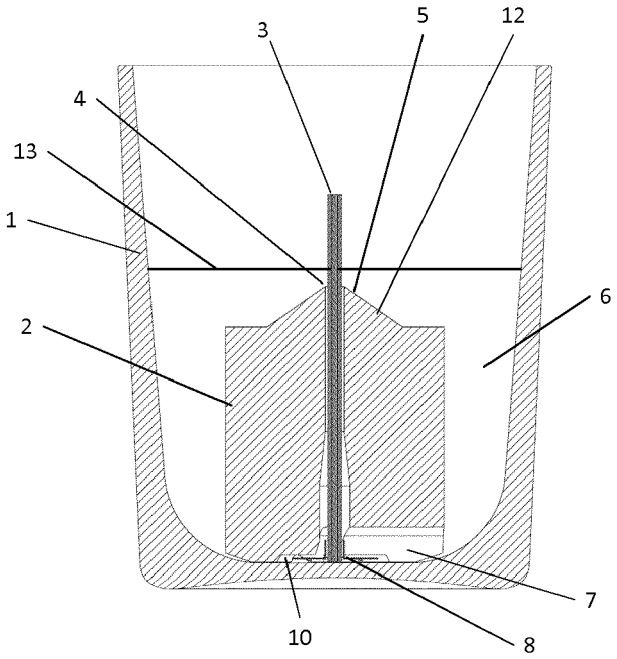
(54) IMPROVED METHOD FOR MANUFACTURING CANDLES AND DEVICE FOR EXECUTING SAID METHOD

(57) Method for manufacturing candles that comprises attaching the wick to a stand and threading the same to a core through a longitudinal orifice, where the method is performed by filling said orifice with a filler material from the bottom, forcing out the air from said orifice before covering the upper outlet thereof, for which purpose the core has lower channels that communicate the longitudinal orifice with the cavity present around the core.

FIG.1



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Description

[0001] As its title indicates, the present invention relates to a method for manufacturing candles, where these candles are of the type placed inside a glass and which, in general, have a manufacturing process that comprises a stage of attaching the wick to a stand or support, subsequent threading into a core that is attached to the base of the container glass, a stage of filling the glass with liquid wax and a drying stage.

[0002] The aforementioned core is in general a wax or paraffin cylinder with a longitudinal central orifice through which the wick is threaded and a central recess on its lower base to house the stand to which the wick is attached without compromising the stability of the core when placed in the glass.

[0003] The invention relates to an improvement of said process and the device that allows executing same, in this case a core with specific features.

[0004] The corresponding field of the art is that of candle manufacturing.

BACKGROUND OF THE INVENTION

[0005] Candles presented inside an open container, such as a glass, occupying the entire cross section of said container are well known.

[0006] In the manufacture of said candles, a common method comprises attaching the wick to a stand, normally made from metal, followed by threading said wick in a core, normally a wax or paraffin cylinder with a generally axial longitudinal orifice and a central recess in its lower base large enough to house the stand.

[0007] The wick crosses the core along the longitudinal orifice thereof such that one end of the threaded wick protrudes from the upper base of the core while the opposite end is attached to the stand, the stand being housed in a recess of the lower base of the core and secured to the base of the container.

[0008] The core does not occupy the entire cross section of the container, so that a cavity is created around the container and on its upper base.

[0009] When the container already has inside it a wick, core and stand attached to the base, molten wax is poured into it filling the cavity surrounding the core, without covering the upper end of the wick and, in general, also covering the upper base of the core such that said core is submerged and concealed from the consumer's view.

[0010] Lastly, a cooling stage is performed.

[0011] A candle of the type described comprising a container, a wick attached to a stand, a support or core and filling wax in the container can be found in US Patent 1,174,934.

[0012] A similar method for manufacturing candles can be found in US Patent 3,998,922.

[0013] US Patent 6,033,210 also relates to a method for manufacturing candles in a container comprising the user of a core that is covered by the material filling the container with the upper end of the wick protruding.

[0014] US Patent 201227016 relates to a candle comprising an inner core where said core is not cylindrical, the cross section thereof varying, and therefore the olfactory sensation thereof also changing.

[0015] Similarly, document EP1094105 relates to a method for manufacturing candles in a container that uses a core that keeps the wick upright and which is covered by molten wax.

[0016] In some cases, as indicated in document US6397562, the base of the core is heated so that it melts somewhat, assisting in the attachment thereof to the base of the container.

[0017] None of the inventions discussed above solves a problem in the manufacture of said candles which is that in many occasions the longitudinal orifice of the core is filled with molten wax from top to bottom, generating air bubbles.

[0018] These air bubbles can rise to the surface during the candle cooling stage, affecting the appearance of the product, such that the candle must be manipulated to eliminate them, normally by shaking and reheating.

[0019] The air bubbles may not emerge during the cooling stage, instead becoming apparent during the use of the candle, as the wax or paraffin is consumed, resulting in an unappealing and low-quality appearance of the product.

DESCRIPTION OF THE INVENTION

[0020] To solve the aforementioned problems, a manufacturing method is proposed wherein the central orifice of the core is filled from bottom to top, eliminating the possibility of air being trapped and generating bubbles that spoil the appearance of the product.

[0021] For this purpose the core is provided with a special configuration that allows the filler material, usually wax, to pass from the surrounding cavity to the inner orifice thereof.

[0022] In view of the above, the improved method for manufacturing candles comprises a number of stages common to candle manufacturing methods, such as attaching the wick to a stand and threading the wick in a core, characterised by:

Attaching the stand and core to the bottom of the container, leaving open channels that communicate the cavity around the core with its inner orifice.

[0023] Pouring filler material into the cavity around the core.

[0024] To prevent the filler material from entering the longitudinal orifice of the core on the upper part, the core is provided on its upper base with an extension, with the outlet of said longitudinal orifice located on the apex thereof such that under gravity the filler material will slide toward the periphery of the core, without entering the longitudinal orifice at the upper part.

[0025] As described, the filler material starts filling the

cavity around the core and, through the aforementioned lower channels, the filler material enters the core orifice from the bottom part thereof.

[0026] The longitudinal orifice is filled starting at the base thereof, pushing out the air through the upper part.

[0027] The longitudinal orifice and the cavity around the core are filled simultaneously by adjusting the pouring speed.

[0028] As the cavity around the core and the longitudinal orifice are filled simultaneously, the air present in the longitudinal orifice is expelled before the filler material covers the core.

[0029] The operation of expelling the air present in the longitudinal orifice is completed before the apex of the extension of the upper base of the core is covered with filler material, thereby preventing the formation of bubbles.

[0030] After the filling operation and after a partial cooling stage, there can be an optional heating stage to eliminate any imperfections left on the surface of the candles.

[0031] The device allowing to carry out this candle manufacturing method is a core comprising:
A main body with two bases, an upper base and a lower base, made from a combustible material and crossed by a longitudinal orifice.

[0032] A wick that crosses said body longitudinally, protruding out of the upper base of the body.

[0033] A stand connected to the lower end of the wick.

[0034] The main body presents on its lower part a number of channels, preferably open towards the base of the main body, communicating the cavity existing around said main body and the longitudinal inner orifice thereof.

[0035] This longitudinal orifice has a greater diameter on its base and narrows gradually, thereby simplifying the threading of the wick and improving the filling thereof, facilitating the entry of the filler material and the expulsion of the accumulated air.

[0036] The base of the main body also presents a circular lip that generates a central recess in which the stand can be housed, and a peripheral setback that facilitates the union of the main body to the base of the container by allowing wax to be deposited in this area.

[0037] At the upper base thereof the main body presents an extension with an apex that coincides with the upper opening of the longitudinal orifice.

BRIEF DESCRIPTION OF THE FIGURES

[0038] The present invention will be better understood in view of the accompanying figures.

FIGURE 1 represents a schematic, cross-sectional view of the container (1), the core (2), the wick (3) that protrudes above the upper part of the longitudinal orifice (4) of the core, coinciding with the apex (5) of the extension (12) of the upper base thereof which ends under the surface (13) of the filler material, showing the cavity (6) around the core, specifically between the core and the container, the lower channels (7) that communicate said cavity (6), and also shows the stand (8) that holds the bottom end of the wick which is housed in a central recess (10) present at the lower base of the core.

FIGURE 2 represents a bottom view of the core, clearly showing the lower channels (7) and the support element (9), in this case a circular lip that generates a central recess (10) and a peripheral setback (11)

FIGURE 3 represents a top view of the core, showing the extension (12) of the upper base and the apex (5) of the same that coincides with the upper outlet of the longitudinal orifice (4) of the core.

FIGURE 4 represents a three-dimensional and sectional view of the whole assembly.

DESCRIPTION OF AN EMBODIMENT OF THE INVENTION

[0039] A description is given below of one possible embodiment of the invention for purposes of illustration only and in a non-limiting sense.

[0040] The invention relates to an improved method for manufacturing candles and the device that allows executing same.

[0041] The method, after attaching the wick (3) to a stand (8) and threading same to a core passing it through the longitudinal orifice (4), comprises the following stages:
Attaching the stand (8) to the base of the container (1) and positioning the core (2) and the wick (3).

[0042] Pouring filler material through a point that does not vertically coincide with the upper outlet of the longitudinal orifice (4), so that the filler material slides towards the cavity (6) surrounding the core and does not enter the longitudinal orifice (4) through the upper part thereof.

[0043] Pouring is performed at a rate that allows introducing the filler material through the lower channels (7) of the core and filling with filler material the longitudinal orifice from the bottom, rising as the container (1) is filled, until covering the core which is left completely under the surface (13) of the filler material.

[0044] The longitudinal orifice (4) has a greater diameter at its base which narrows gradually, thereby aiding in the threading of the needle and in filling same.

[0045] In parallel, due to the peripheral setback (11) of the base of the core, part of the filler material is deposited in the area between the core and the container, helping to attach it to the base of the container and providing a more homogeneous and aesthetic appearance of the assembly, as the base of the core is partially concealed.

[0046] To carry out this manufacturing method, the core has a main body, in this case a cylinder, comprising:

A series of lower channels (7) that communicate the cavity (7) around the core with the base of the longitudinal orifice (4).

[0047] In this case the channels are open to the base of the core but nothing prevents them from being closed tubular-type channels.

[0048] It has been selected to use three channels arranged equidistantly to form a Y, although a different number and arrangement would also be possible.

[0049] A support element (9) of the core on the base of the container (1), which in this case is a circular protrusion interrupted by the passage of the channels (7), but a different arrangement would also be possible providing support and generating the central recess (10) and preferably the peripheral setback (11).

[0050] An extension (12) on the upper base with a conical shape, at the apex (5) of which the longitudinal orifice (4) has its upper outlet.

Claims

1. **IMPROVED METHOD FOR MANUFACTURING CANDLES** of the type comprising a stage of attaching the wick to a stand, threading the wick through a longitudinal orifice made in a core, attaching the stand to the base of a container and positioning the core, leaving a cavity between the core and the walls of the container and pouring the filler material, **characterised in that**:

    1. The filler material is poured at a controlled rate from a point not directly vertically above the upper opening of the longitudinal orifice.
    2. The filler material is led through a series of channels (7) to the base of the longitudinal orifice (4).
    3. The longitudinal orifice (4) is filled from the base thereof.
    4. The longitudinal orifice (4) and the cavity (6) around the core are filled simultaneously.
    5. The air previously present in the longitudinal orifice is expelled before the filler material covers the core.

2. **IMPROVED METHOD FOR MANUFACTURING CANDLES** according to the preceding claim, **characterised in that** after the filling and a partial cooling, the method also comprises a subsequent reheating stage.

3. **DEVICE FOR MANUFACTURING CANDLES** of the type known as cores, comprising a body made of a combustible material presenting a longitudinal orifice crossed by a wick, **characterised in that** it comprises at least one lower channel (7) that communicates the cavity (6) around the core (2) with the longitudinal orifice (4), a support element (9) and a central recess (10)

4. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** it has three channels (7).

5. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** the channels (7) are arranged equidistantly from each other.

6. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** the channels (7) are open to the base of the core.

7. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** the support element (9) comprises a circular lip.

8. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** it also comprises in its lower base a peripheral setback (11).

9. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** it also comprises in its upper base an extension (12).

10. **DEVICE FOR MANUFACTURING CANDLES** according to claim 3 **characterised in that** the outlet opening of the longitudinal orifice (4) coincides with the apex (5) of the extension (12).

FIG.1

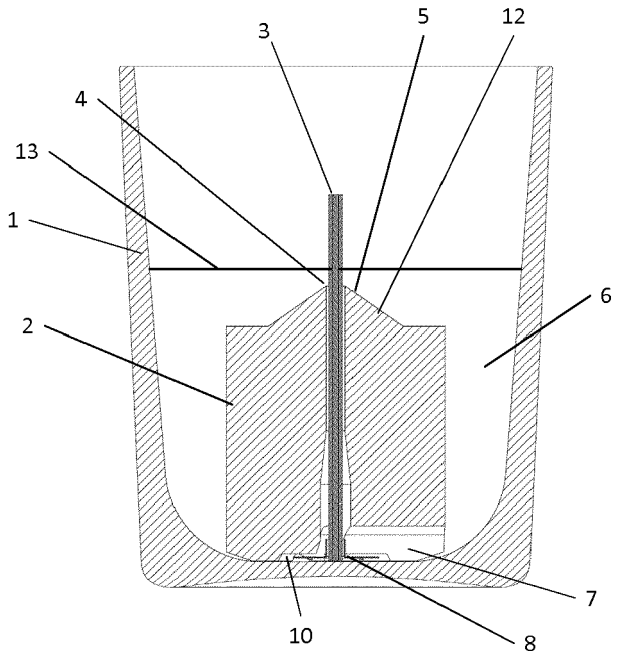


FIG.2

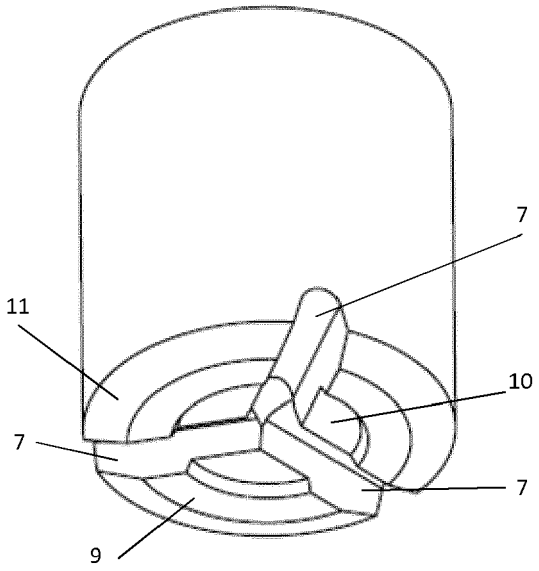


FIG.3

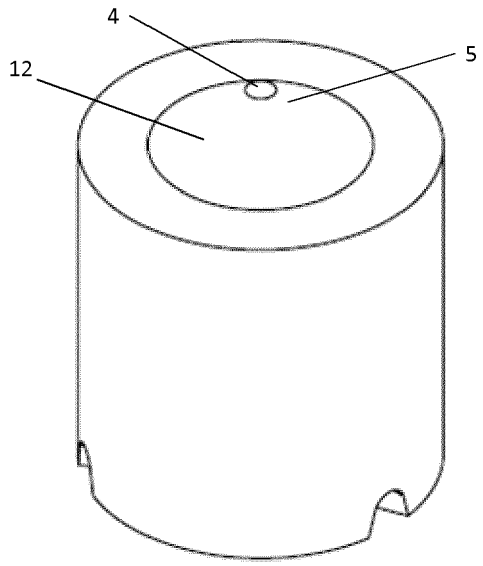
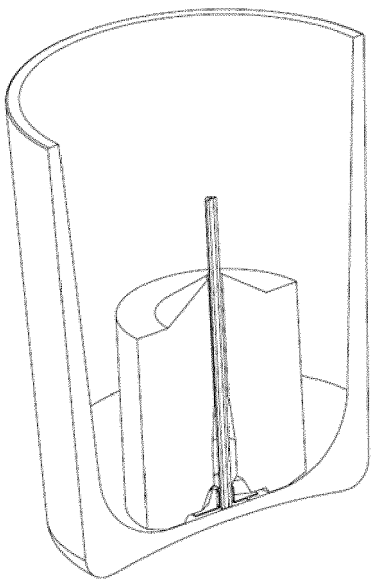


FIG.4



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EUROPEAN SEARCH REPORT

Application Number
EP 18 16 5642

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	9 May 2018	Adechy, Miriam

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