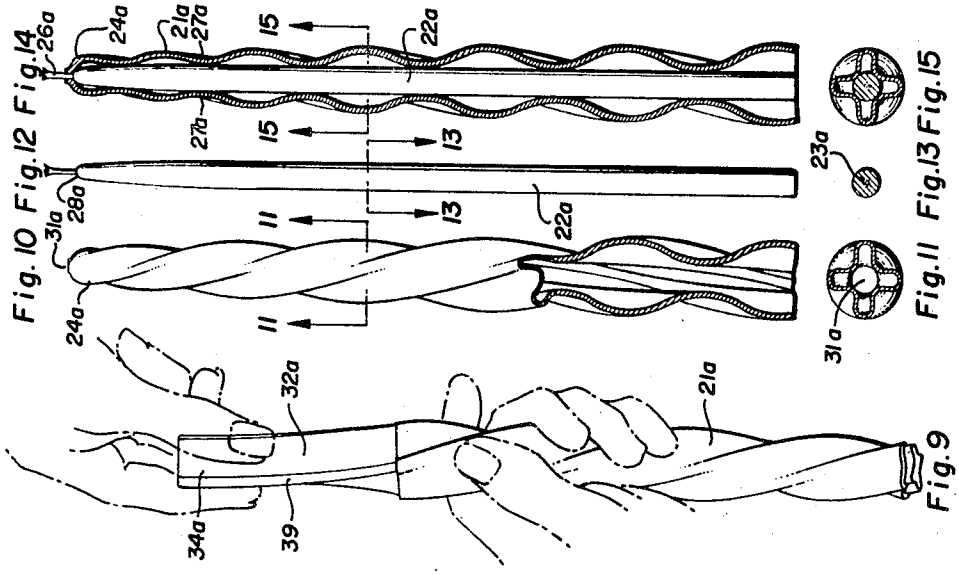
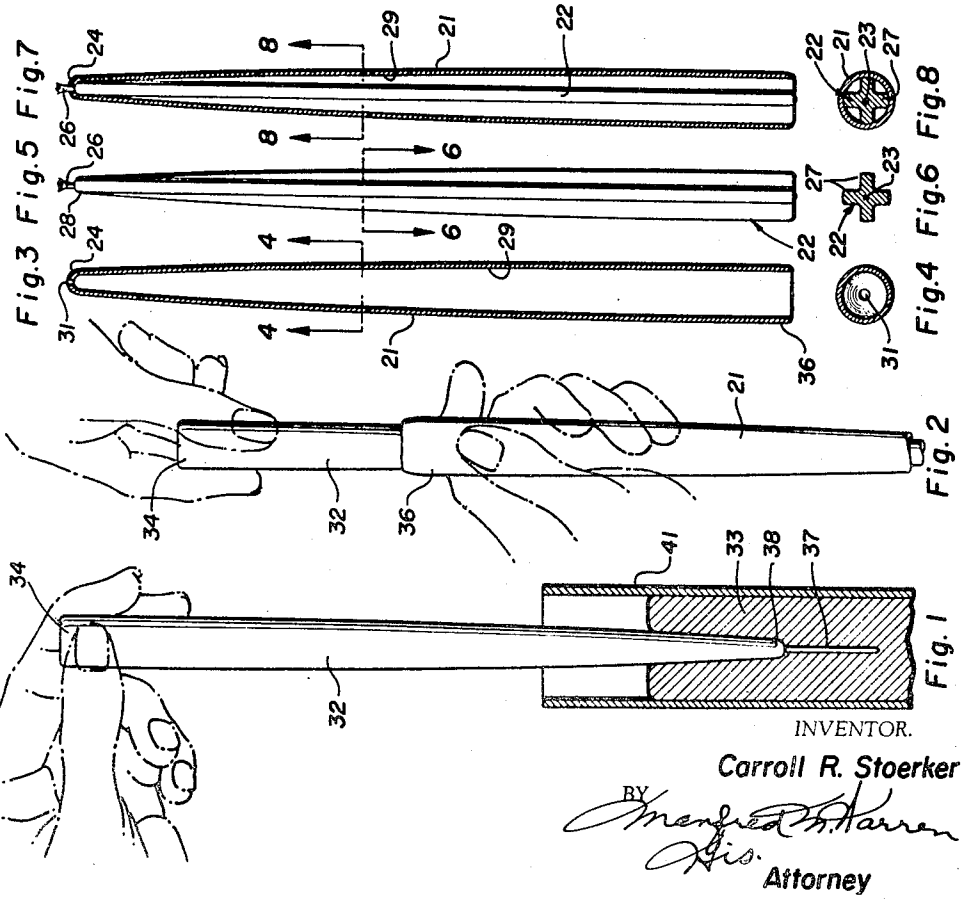
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METHOD OF MAKING A CANDLE

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METHOD OF MAKING A CANDLE

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The invention relates to wax candles and their manufacture.

An object of the present invention is to provide a method of manufacturing long, stately tapers having the desirable appearances of long hand-dipped tapers but at much lower labor and material costs.

Another object of the present invention is to provide a candle which will better hold and maintain its stately, erect shape during burning and will have less tendency to slump, bend or droop than the hand-dipped tapers presently available.

A further object of the present invention is the provision of a device that will aid in the herein described process of producing, relatively, low-cost candles having a variety of shapes including relatively complex spirally fluted forms.

Still another object of the present invention is to provide a candle construction of the character hereafter described which makes optimum use of waxes having different qualities and characteristics, particularly in the core and shell portion of the candle.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is understood, however, that variations in the showing made by said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawings:

Figure 1 is a side elevation of a candle-making form and illustrating in cross-section a container of wax into which the form is being dipped.

Figure 2 is a fragmentary side elevation of the form and wax shell formed thereon.

Figure 3 is a longitudinal cross-sectional view of the wax shell.

Figure 4 is a cross-sectional view of the wax shell taken substantially on the plane of line 4—4 of Figure 3.

Figure 5 is a side elevation of a wax core member constructed in accordance with the present invention.

Figure 6 is a cross-sectional view of the wax core member taken substantially on the plane of line 6—6 of Figure 5.

Figure 7 is a longitudinal sectional view of a candle constructed in accordance with the present invention and shown with the interior core member in elevation.

Figure 8 is a cross-sectional view of the candle taken substantially on the plane of line 8—8 of Figure 7.

Figure 9 is a fragmentary side elevation similar to Figure 2 but showing a modified form of form and wax shell thereon.

Figure 10 is a side elevation partly in section of the wax shell of Figure 9.

Figure 11 is a cross-sectional view of the wax shell taken substantially on the plane of line 11—11 of Figure 10.

Figure 12 is a side elevation of a modified form of wax core.

Figure 13 is a cross-sectional view of the core taken substantially on the plane of line 13—13 of Figure 12.

Figure 14 is a longitudinal sectional view similar to Figure 8 but showing the modified form of candle with the core member in side elevation.

Figure 15 is a cross-sectional view of the candle taken substantially on the plane of line 15—15 of Figure 14.

The candle of the present invention and as illustrated in the accompanying drawing, see Figures 7 and 8, consists, briefly, of an elongated tubular wax shell member 21, an elongated wax core member 22 mounted within the shell member 21, a wick 23 carried by and extending longitudinally through the core member 22, and from one end 24 of the shell member for lighting of one end 26 of the wick, and circumferentially spaced radially extending portions 27 on one of the members 21—22 engaging and rigidly supporting the other member in spaced relation. Preferably the shell member 21 is formed with longitudinal taper toward its normally upper end 24, and the radially extending portions 27 are formed with a similar taper so as to provide a snug fit at at least spaced points over the length of the two telescopically arranged sections.

In the preferred form of the invention as illustrated in Figures 6 and 8, the wax core member 22 is formed with a plurality of circumferentially spaced longitudinally extending ribs which provide the radially extending portions 27 aforementioned, and these are tapered toward the normally upper end 28 of the core member to conform to the taper of and to engage and support the internal wall 29 of the shell member 21. As will be observed from Figures 5 and 6, the wick 23 is carried generally axially through the core member and from the upper end 28 for extension of the wick end 26 through an opening 31 provided in the upper end 24 of the shell member.

In the modified form of the invention as illustrated in Figures 9–15, the tubular shell member 21*a* is formed with an undulating wall which provides the internal radially extending portions 27*a* for engagement and supporting of the internally contained core member 22*a* in generally spaced and concentric relation. If desired and as here shown, the aforementioned undulation of the shell may be in the form of a spirally fluted shell wall in which the valleys of the flutes extend inwardly to engage the core member 22*a*. By using a plurality of flutes the valley of one flute may be positioned in transversely opposed relation to the valley of a diametrically opposed flute, as best seen in Figures 11, 14 and 15. In the form illustrated, four such spiral flutes are set in parallel relation and at ninety degree intervals around the periphery of the shell member.

In the form of the invention as illustrated in Figures 9–15, the core member 22*a* may be of plain, generally cylindrical form, preferably tapered slightly towards its normally outer end 28*a* in conformity with a small taper provided over the length of the shell member towards its normally outer end 24*a*. As in the first described embodiment, the wick 23*a* is carried axially through the core member 22*a* and has an end 26*a* extending from the core end 28*a* for extension through an opening 31*a* provided in the normally upper end 24*a* of the shell.

As a further feature of the present invention, the shell member 21 may be conveniently and rapidly formed on an elongated core or form member 32 adapted for dipping into wax 33 as depicted in Figure 1 of the drawing, for forming of the wax shell 21 on the periphery of form

member 32, the particular feature of the present invention being characterized in the forming of member 32 of distendable elastic material such as rubber, either natural or synthetic or some suitable composition of the two, functioning automatically to reduce in thickness and to shrink away from the shell when pulled at one end 34 from the normally lower end 36 of the shell so as to place the form member in tension. The opening 31 in the end 24 of the shell for emergence of the wick end 26 may be conveniently formed by a pin 37 formed as an axial extension from the normally upper reduced end 38 of the form 32. Preferably the pin 37 is formed of metal and may be molded as an integral part of the form member 32.

The elastic extendable core form is particularly advantageous in the making of more complicated shapes of shells such as the spirally fluted form illustrated in Figures 9–15. In such case the form member 32*a* is formed with a spiral rib 39 for forming the spirally fluted wall of the shell, and the core member may be removed by pulling, as in the first described embodiment, accompanied also with relative rotary displacement between the core member and the shell 21*a*. This may be accomplished, as depicted in Figure 9, by manually engaging the core member 32*a* at one end 34*a* with one hand and grasping the shell 21*a* in the other hand and pulling the core to get a stretching and shrinking action of the core to release the rib 39 from the flute in the shell. To form the specific fluted shape illustrated in Figures 9–15, the core member 32*a* is formed with four longitudinally spirally extending ribs 39 set in parallel relation and at ninety degrees from each other around the periphery of the core member.

In the case of either of the embodiments illustrated in the accompanying drawing, the method of the present invention then consists, briefly, in the dipping in wax 33 suitably contained in a heated container 41 of the elongated form member 32 to provide the wax shell member 21, casting or otherwise forming the elongated wax core member 22 and the longitudinally extending wick 23 therein, and assembling the shell and core members in their spaced and concentric relation as illustrated in Figures 7 and 14. Casting of the core member 22 and wick 23 therein provides the lowest cost, most efficient manufacture of this component of the candle and may be effected, as is understood in the candle-making art, in a suitable metal mold. The mold for forming the core member may be readily fashioned to provide the ribs 27 and may be likewise fashioned to give the outer surfaces of the ribs an arcuate form to better fit the circular cross-section of the internal wall 29 of the shell 21. In the case of core member 22*a* such ribs will be eliminated and the core member formed as a straight, generally cylindrical shaft with some taper as above noted.

Candles constructed in accordance with the present invention have all of the desirable appearance of relatively costly hand-dipped tapers at a much lower manufacturing cost and yet provide certain advantages over the conventional more expensive hand-dipped taper in being of lighter weight and having much less tendency to bend, slump or droop during burning. As will be understood, the elastic distendable core member 32 and the improved method of manufacture afforded thereby makes possible the easy and relatively low-cost production of a variety of candle shapes not heretofore readily obtained or only at very much higher cost. Also by making the shell and core members as separate components, it is entirely feasible to select different wax materials for the two members to obtain optimum benefit of the appearance, strength and burning characteristics of the materials.

I claim:

1. The method of making a candle which consists in dipping in wax of an elongated form of distendable elastic material to provide an elongated wax shell and pulling said form endwise out of said shell to define a separate wax shell member, casting an elongated wax core member and longitudinally extending wick therein of an external dimension insertable into said shell, forming one of said members with radially extending portions dimensioned and shaped to engage and support the other of said members in spaced concentric relation, and assembling said shell member on said core member in said supported spaced and concentric relation.

2. The method of making a spirally fluted candle which consists in dipping in wax of an elongated spiral form of distendable elastic material to provide an elongated spirally fluted wax shell and pulling said form endwise and with relative rotary displacement out of said shell to define a separate spirally fluted wax shell member having an undulated circumferential form with internally extending valley portions between the flutes, casting an elongated wax core member and a longitudinally extending wick therein of an external dimension insertable longitudinally into said shell and into supporting engagement with said valley portions for positioning said shell and core members in spaced concentric relation, and assembling said shell member on said core member in said supporting spaced and concentric relation.

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