WICK STRUCTURE FOR VOTIVE CANDLES AND THE LIKE

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The present invention relates to the manufacture of wicks for candles and more particularly for votive candles wherein a vessel is provided which contains the paraffin or like combustible material and a wick is provided to produce and control the desired flame. During burning, sufficient heat is produced to melt that portion of the paraffin surrounding the wick. Thus, the support of the wick is taken away and, if it is not self-sustaining, it tends to fall over and become submerged in the melted paraffin, whereby the flame is put out, or, the wick may tilt to such an extent as to cause the flame to touch the glass vessel causing it to break.

It is known how to manufacture a self-sustaining wick with a low melting point metal core surrounded by combustible textile material but, after the candle has completely burnt, the melted core remains in the bottom of the candle container.

In order to produce satisfactory burning conditions and to eliminate smoking it is necessary to provide a wick which will give off a definite size flame for each diameter candle.

It has been found that if a burning wick remains in the flame, said wick will tend to grow longer and longer and cause smoking. In order to obviate this disadvantage the wick must be such as to have a tendency to curl while burning whereby the burning end of the wick will project out of the flame and disintegrate resulting in the maintenance of a uniform size of flame.

Accordingly, the general object of the present invention is the provision of a wick structure which will be self-sustaining and at the same time entirely combustible.

Yet another important object of the present invention is the provision of a wick structure for paraffin candles and the like which has a combustible core made of self-sustaining material having a slow rate of burning, and suitable resistance to any chemicals present in the paraffin, and which will leave no residue and will not give off any offensive odours during combustion.

Still another object of the present invention is the provision of a wick structure which will produce the desired size flame for a votive candle or the like of a given diameter and made of a given combination of combustible materials.

Yet another important object of the present invention is the provision of a wick structure of the character described which is so made as to tend to curl while burning to thereby prevent the wick from remaining in the flame and from growing longer and longer and causing smoking.

Another object of the present invention is the provision of a wick of the character described adapted to be manufactured in continuous length and thereafter cut to any desired length.

The foregoing and other important objects of the present invention will become more apparent during the following disclosure and by referring to the drawings in which:

Figure 1 is an elevation of part of a wick structure according to a first embodiment of the invention;

Figure 2 is an elevation of part of the wick structure according to a second embodiment of the invention;

Figure 3 is an elevation of part of a third embodiment on a smaller scale and Figure 4 is an elevation partly in section of a fourth embodiment on a smaller scale.

Referring now more particularly to the drawings in which like reference characters indicate like elements throughout, the core of the wick comprises a single stiff central rod-like element 1, as shown in Figures 2 and 3, or of two or more rod-like elements 1' twisted together, as shown in Figure 1. The elements 1 and 1' are made of a plastic compound having a good resistance to any chemical present in the paraffin or the like and which is combustible but has a relatively slow rate of burning.

The plastic compound must also be easily extruded into round or ribbon-like rods and not give off any offensive odours during combustion.

According to the invention the plastic compound is preferably cellulose acetate extruded in a round or ribbon-like rod of approximately 0.30" diameter for the core 1 of Figures 2 and 3, and about half this diameter for the elements 1' of Figure 1.

In order that the wick may burn efficiently, the core is surrounded by textile fibres having the property of capillary absorption of the melted paraffin. These textile fibres, preferably cotton, may be braided around the core elements 1', as shown at 2 in Figure 1. Or, according to the second embodiment shown in Figure 2, the textile fibres consist in a plurality of strands 3 spirally twisted around the core 1 in closely adjacent spirals. Or, according to the third embodiment shown in Figure 3, the textile fibres consist in strips 4 and 4' spirally wound in opposite directions around the core element 1, and such that parts of the latter will be left exposed.

Contrast of two wicks of the same diameter and constructed according to Figures 2 and 3, respectively, obviously shows that the wick made according to Figure 3 will give off a smaller flame because it has less textile fibres at any given cross-section of said wick and therefore, a smaller capillary absorptive capacity for the melted wax. Thus it is possible to vary the size of the flame emitted by a wick of a given diameter by winding the textile strands more or less closely around the core.

In order to produce a wick that will tend to curl while burning the embodiment of Figure 3 is used in which the inner strip 4, the one immediately surrounding the core 1, will be wound with a greater tension on the core than the outer strip 4'.

Wick curling may be also developed by changing the shape of the synthetic core from round to a flat or ribbon-like core as shown in Figure 4. Figure 4 shows a flat ribbon-like homogeneous core 5 of extruded cellulose acetate covered by strands 6 of cotton fibres.

The above described embodiments may be used without further processing or the textile fibres 2, 3, or 4 may be treated with ceresine or other wax-like substance. The ceresine will help maintain the textile fibres tight around the core of plastic.

It has been found in practice that the temperature of the melted paraffin surrounding the wick is not high enough to produce undue softness and subsequent deformation of the core when said core is made of cellulose acetate, as mentioned above.

While preferred embodiments according to the present invention have been illustrated and described, it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claims.

We claim:

1. A wick of generally cylindrical shape comprising a
flat ribbon-like homogeneous core made of extruded cellulose acetate and strands of cotton fibres wound in spirals around said core.

2. A wick comprising a homogeneous core made of extruded cellulose acetate and at least two strands of cotton fibres surrounding said core, one of said strands being wound in clockwise direction and the other of said strands being wound in anti-clockwise direction around said core, and said two strands leaving parts of the outside face of said core exposed.

3. A wick comprising a homogeneous core made of extruded cellulose acetate and an inner and an outer strip of combustible textile fibres surrounding said core, one of said strips being wound in one direction around said core, and the other of said strips being wound in the opposite direction around said core, the inner strip being wound with a greater tension than the outer strip.

4. A wick comprising a cylindrical homogeneous core made of extruded cellulose acetate and at least two strands of cotton fibres surrounding said core, one of said strands being wound in spaced spirals directly on said core, and the other strand being wound in spaced spirals over said first mentioned strand and in the opposite direction, the first named strand being wound with a greater tension than the last named strand.

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