CANDLE WICK AND METHOD OF PREPARING SAME

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This invention relates to an improved candle wick, and more particularly relates to an improved waxed wick for candles, and to the method of making such wicks. Votive or "Night Lite" candles, large pinnacle candles, and the like are usually made by casting the wax in a mold having a coaxially centered wick rod or pin extending through the entire length of the mold. Molten wax is poured into the mold and the mold cooled by suitable well-known means, such as by water cooling, to cause solidification of the wax. The solidified wax body is then removed from the mold and a wick inserted through the axial bore formed by the wick rod or pin. The conventional wick used in the candles of the type described is a metal core wick impregnated with crystalline paraffin wax; the metal core may be a strand of soft metal, such as lead which melts as the wick burns down. Other stiffening materials are sometimes used in place of a metal strand. The wick may or may not be attached at one end to a wick holder or plate which lies against or is impressed into the butt end of the candle. In making dipped candles, it is the usual practice to first dip the candle wicking into the molten wax bath, withdraw the wick from the bath, and cool until solidified. After solidifying, the operation is repeated until the desired thickness of the candle body is obtained. The wax for this purpose is usually a crystalline wax having a melting point of about 125° F. to 135° F., melting point, which may or may not be mixed with stearic acid. One of the difficulties encountered with the conventional wick is the tendency of the wax to crack or chip when bent, causing improper and inefficient burning of the candle.

It is an object of the present invention to provide an improved waxed cast candle wick which will improve the burning quality of the candle and candle light and which will ensure proper lighting. Still another object of the invention is to provide an improved method for preparing the candle wick of the present invention. Other objects and advantages of the invention will become apparent from the following description thereof read in conjunction with the accompanying drawing, which is a schematic diagram of an apparatus for preparing the candle wick of the present invention.

In accordance with the present invention, the improved candle wick comprises candle wicking, of cotton or other suitable textile fibers, impregnated or treated with a wax composition consisting essentially of from about 40% to about 60%, by weight, of a crystalline paraffin wax having a melting point of about 120° F. to about 130° F., and from about 60% to about 40%, by weight, of a microcrystalline wax having a melting point of about 125° F. to about 155° F. The wicking is coated to a thickness of from about 0.01 to about 0.03 inch, preferably from about 0.015 to about 0.020 inch with the described wax composition.

The microcrystalline wax, a petroleum wax of fairly low oil content—usually less than about 5% oil—is a residual wax obtained in the manufacture of bright stocks.

These waxes are characterized by their micro or small needle crystals and are believed to contain relatively large amounts of highly branched and ring compounds. The microcrystalline waxes are sometimes referred to as "petrolatum" waxes.

In the preparation of the herein-described candle wick, the untreated candle wicking is passed through a molten bath of the herein-described wax composition, cooled to solidify the wax thereon, and then passed through one or more dies to obtain a finished wick having the desired wax thickness.

The apparatus for preparing improved candle wicks of the herein-described invention is illustrated by the accompanying drawing. Referring to the drawing, the untreated candle wicking 10 is fed from reel 11 over pulley 12 and multiple pulley 13, and passes through molten wax bath 14, in the thermostatically controlled heated tank 15. The multiple pulley 13, half submerged in molten wax bath 14, can be supported by well-known suitable means therein. The candle wicking, after passing through the molten wax bath 14, is passed vertically a plurality of times through the vertically disposed cooling chamber 16 which is cooled by cold air introduced through the conduit 17 preferably located substantially midway between the opened upper and lower ends of said chamber 16, by means of multiple pulley 13 and multiple pulley 18 located at the top of said chamber 16. The number of passes of the candle wicking through the wax bath will depend upon the desired thickness of the wax on the wicking. The wax-coated wicking is then passed from the cooling chamber 16 over pulley 19 through a series of dies 20 to the motor-driven pulley 21 and finally to take-up reel 22. The motor-driven pulley 21 is preferably of variable speed so that the wicking can be pulled through dies 20 at any desired rate between about 5 and 20 feet per minute. The take-up reel 22 is driven by suitable means at a speed which will apply a constant tension to the wicking passing over the drive pulley 21. The dies 20 consist of a series of removable small stainless steel plates, each centered hole of decreasing diameter from left to right.

The following example is illustrative of the present invention:

A 32-strand lead cored votive light wicking was waxed to a total wick diameter of about 0.086 inch with a mixture of equal parts of a paraffin wax having a melting point of 122° F. to 127° F. and a microcrystalline wax having a melting point of about 160° F., the wax mixture having a melting point of about 143° F. The wax coating thickness was about 0.02 inch. Wicking so-treated when inserted in votive candles was resistant to fracture and chipping when bent and produced a candle light superior to that obtained when employing wicking impregnated with straight paraffin wax.

If desired, the mixture of paraffin wax and microcrystalline wax can be dyed to give any characteristic color to the candle wick.

I claim:

1. A waxed candle wick comprising a textile fiber candle wicking impregnated with a wax composition comprising from about 40% to about 60%, by weight, of a crystalline paraffin wax having a melting point of from about 120° F. to about 130° F., and from about 60% to about 40%, by weight, of a microcrystalline wax having a melting point of from about 155° F. to about 165° F.

2. A waxed candle wick comprising a textile fiber candle wicking impregnated and coated to a thickness of from about 0.01 to about 0.03 inch, preferably from about 0.015 to about 0.02 inch, with a wax composition comprising from about 40% to about 60%, by weight, of a crystalline paraffin wax having a melting point of from about 120° F. to about 130° F. and from about 60% to about 40%, by weight, of a microcrystalline wax.
line petroleum wax having a melting point of from about 155° F. to about 165° F.
3. A waxed self-sustaining candle wick comprising a stiffened textile fiber candle wicking impregnated with a wax composition comprising from about 40% to about 60%, by weight, of a crystalline paraffin wax having a melting point of from about 120° F. to about 130° F. and from about 60% to about 40% by weight of a microcrystalline wax having a melting point of from about 155° F. to about 165° F.

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