The present invention relates to an improved method and formulation for manufacturing paraffin wax candles. The method is characterized by the addition of naturally occurring resinoid compounds to the wax at a predetermined temperature within a given temperature range and then controlling the cooling step subsequent to pouring the wax into the candle molds. The process and formulation produces a unique orientation of the wax crystals formed to eliminate net shrinkage during solidification and to provide a very uniform appearance. The resulting candles upon complete solidification of a single fill of the mold do not exhibit the usual large hole or void in the center portion which usually requires additional processing steps to eliminate.
FIG 1 PRIOR ART

FIG 2
METHOD AND COMPOSITION FOR CANDLE MAKING

BACKGROUND

In general, paraffin wax candles with self-supporting walls are made by a molding process utilizing petroleum waxes processed by various petroleum industry techniques. Usually, waxes for this purpose are prepared from those paraffin waxes having a melting point between 110°F to 155°F with a color between +12 Saybolt and +30 Saybolt. The oil content is normally between 0.02 to 5 percent.

It is well-known that in the past, narrow cut waxes are usually preferred by the industry for molded candles having self-supporting walls. Narrow cut waxes are normally defined as those waxes having a melting point in the range between 120°F to 155°F which have less than a 100°F spread between 95-5 percent recovered distillation point in a 10mm vacuum distillation. Preferably, the carbon atom distribution spread is from C-22 to C-35.

One of the disadvantages of narrow cut waxes in the manufacture of candles is that in prior conventional processes, a relatively large hole or void forms around the wick in the center of the candle due to the shrinkage of the wax upon solidification. This required the addition of more melted wax to the mold in one or more steps to fill and finally eliminate this hole. In addition to the inconvenience and increased labor cost of these additional steps, production rates were, by necessity, adversely affected.

The use of wide or broad cut waxes is substantial in the manufacture of container type candles. Such candles are used and consumed in the original containers in which they were formed. One desirable characteristic of the wide cut waxes for container-type candles is the reduced tendency to form as large a hole in the center of the candle upon cooling as compared to narrow cut waxes. As used herein, wide cut waxes may be defined as having more than 150°F spread between 95-5 percent recovered distillation point in a 10mm vacuum distillation and a carbon atom number distribution range between C-19 and C-45.

However, wide cut waxes have generally not received substantial use in the manufacture of self-supporting molded candles because of the well-known disadvantages associated therewith for this type of candle.

Other problems generally encountered in all molded candle-making processes include non-uniform appearance, particularly when using color and perfume additives as well as other conventional additives, surface irregularities such as pitting and the like, and internal cavities due to the usual shrinkage upon solidification in conventional candle mold configurations.

SUMMARY OF INVENTION

The present invention relates generally to candle-making and specifically to an improved method and formulation for manufacturing candles. In general, the method of the present invention comprises the discovery that the addition of certain resinoid compounds to paraffin wax at temperatures elevated above the melting point of the wax, in conjunction with controlling certain process parameters, provides a candle of excellent quality which is completely formed upon solidification in a single filling of the mold. Therefore, no large hole or void is formed in the center of the candle. The candle so formed has an excellent uniform appearance, a density less than typical candles formed by prior conventional processes except aerated types, and possesses at least equal, if not superior characteristics relative to appearance, burning performance and opaqueness as candles formed by prior conventional processes.

More specifically, the wax batch is melted and raised to a temperature in a range between 180°F to 300°F. At some predetermined temperature in this range, a given amount of a resinoid compound is added to the batch. Then the wax composition so formed is poured into suitable molds disposed in an ambient environment to assure that cooling and subsequent crystallization occurs. The temperature of the batch upon or immediately after addition of the resinoid compound and the ambient temperature of the environment after pouring the hot wax into the candle molds may be suitably adjusted to effect a predetermined lapse of time before actual crystallization of the wax composition begins in the mold. The desirable time period between the addition of the resinoid to the composition and the crystallization has been determined as approximately between a minimum of 30 minutes and a maximum of approximately 8 hours. Outside of this range, the consistency of the occurrence of the desired phenomenon of uniform planar orientation of the wax crystals, which is theorized to contribute to the desired results obtained, falls off sharply. Such inconsistency is commercially and for most practical commercial applications totally inadequate. Extended cooling times within this range are not particularly desirable relative to production rates as the longer the cooling period, the slower the overall production rate.

OBJECTS

It is therefore a primary object of the present invention to provide an improved method for manufacturing candles and an improved formulation which results in a candle having outstanding characteristics.

It is another object of the present invention to provide a candle making process and formulation which eliminates net shrinkage of the candle wax composition as it undergoes its phase change from a liquid to a crystalline solid.

It is another object of the present invention to provide a process and formulation of the type described which provides a very high degree of uniformity of appearance with the use of additives, such as perfume and coloring agents, as well as other conventionally used additives.

It is another object of the present invention to provide a process and formulation of the type described which virtually eliminates surface finish irregularities in the candle product.

It is another object of the present invention to provide a process and formulation of the type described which permits the formation of a candle in a single pouring and cooling step, without the necessity of additional subsequent pouring and cooling steps to achieve a fully formed end product.

It is another object of the present invention to provide a process and formulation which provides a high degree of flexibility related to manual or automated production as compared to many prior art processes.

It is a further object of the present invention to provide a process and formulation of the type described which results in a candle product having a lower density as compared to prior art processes, except aerated...
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3. It should also be pointed out that microscopic examinations of the solidified product of the present invention do indicate a unique, uniform planar orientation of the crystals of the wax composition which include the resinoid compound addition. On the other hand, the same wax compositions without the addition of the resinoid in accordance with the present invention exhibit an apparent random or haphazard crystalline orientation. The candles having this haphazard crystalline orientation were from samples which also included a large hole or void surrounding the wick.

These same microscopic studies do not indicate exactly what visual phenomenon occurs to cause the bubble-like appearance. The “bubbles” do not appear to be entrapped air or any distinguishable additive component. Nor has any other conclusive rationale been reached to determine what causes this subtle but distinct bubble-like visual effect. One theory advanced is that the effect may be caused by some changes in the refractive index within the composition. However, it should be noted that whatever the explanation may be, this phenomenon is useful to control the hue and value of the color when using coloring additives in the candle. The higher micro-crystalline amounts seem to lighten the final color of the candle and therefore provide a useful tool in manipulating the final appearance of the product. Also, the general uniformity of appearance is aided when perfume oils are employed in the composition. Without use of the present invention, different perfume oils tend to produce candles of diverse appearance.

The range of the processing temperature for heating the wax is approximately 180°F to 300°F. Factors which affect the preferred temperature employed within this range are the volume of wax poured into the mold, the available ambient temperature employed for cooling, and to a much lesser degree, the specific wax composition obtained from the manufacturer and the conventional additives employed during the process. For a wide range of candle mold volumes conventionally employed, and for most present manufacturing facilities, the preferred temperature range is between about 250°F to 270°F. At this range of temperatures, unaided ambient room temperatures may be employed for cooling to achieve good results for a broad range of candle wax volumes and compositions. Therefore for many applications, no complex and expensive temperature controls and facilities need be employed. For the smaller size candles, near two ounces or so, a higher than normal ambient room temperature for cooling may be required in some instances. The larger candles, above 30 ounces for example, may require in some instances employment of lower than usual room temperatures, 50°F for example. In either case however, the ambient cooling temperature needed is related to the temperature to which the batch is first heated.

The above discussion of the appropriate processing temperatures is very important because it has been discovered that certain time limitations become important to the proper operability of the present invention to obtain the desired results. It has been empirically determined that the time period between addition of the resinoid compound and the beginning of the crystallization of the wax in the mold is very important. If this time lapse is less than approximately 30 minutes or more than about 8 hours, the final product exhibits the undesirable large hole or central
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void. Preferably, the cooling is controlled such that this time period is between 1 1/2 to 3 1/2 hours.

Therefore the temperature of the wax composition upon addition of the resinoid compound and the ambient cooling temperature are very important factors in controlling the above defined time period. The wax volume contained in the mold also affects this time period since it takes longer for a larger volume to cool than a smaller volume when exposed to the same ambient cooling temperature.

Therefore, using conventional metal molds, it has been observed than an ambient room temperature between 45°F and 120°F works well when cooling wax volumes of conventional candle amounts between approximately one ounce to approximately 100 ounces depending upon the given circumstances of each application.

The usual ambient room temperature where the batch is poured is between 68°F and 90°F and the results have been excellent when the batch is heated to between 260°F and 270°F when the resinoid compound was added.

It should be pointed out, of course, that the use of additional ambient temperature controls or by making other provisions to effect the cooling rate of the poured wax, such as insulation or the like, permits a broad range of temperatures to be used effectively.

In this vein, a notable increase in production rates may be achieved by lowering the ambient cooling temperature after a significant portion of the wax volume in the mold has crystallized. For example, after at least one-half and preferably three-fourths of the wax has crystallized, the mold and wax may be transferred to an ambient temperature as low as 30°F without experiencing any substantial adverse affects due to thermal shock.

This chilling procedure, after substantial crystallization has occurred, not only reduces production times but also facilitates removal of the formed candle from the mold due to a slight but uniform shrinkage of the candle. It should also be noted that slight variation within the described limits are usually necessary to achieve the optimum process parameters to obtain the best results because of the variance between commercially obtained paraffin waxes nominally identified as the same.

It is also important to point out that the wax of any given batch should be poured as soon as practically possible after addition of the resinoid compound. In many instances, a prolonged delay between addition of the resinoid and the cooling of the wax in the mold adversely affects the consistency of obtaining the desired modification of the crystallization process and therefore the desired results of the present invention.

For example, for some of the formulations within the range disclosed herein, a delay of thirty minutes between adding the resinoid to the wax and pouring the wax in the mold has resulted in failure of the desired crystalline modification. Whereas, candles obtained by pours from the same batch prior to the expiration of the described 30 minute period were excellent in quality and exhibited the desired crystallization modification.

With specific reference to the drawings,

FIG. 1 diagrammatically illustrates the normal or usual configuration occurring during the cooling of molded candles prepared by most prior art methods.

From left to right, as seen in FIG. 1, the mold, 20 is filled to the level 21 indicated by the dotted line, with the melted wax.

Upon cooling, the liquid wax shrinks uniformly while still in the liquid state. Upon further cooling, the outside surfaces are the first to cool and thus crystallize and become solid or semi-solid. A further shrinkage or reduction in volume occurs which causes a recess or indentation 24A to form in the center of the upper surface of candle 22. This phenomenon continues upon cooling to affect a deeper hole or recess 24B as shown in the next two progressive illustrations. The exact configuration varies, but the deep hole or void in the center is characteristic of prior art processes. Sometimes the upper surface becomes covered but the void is still present.

This characteristic makes it necessary to follow the first filling of the mold and the initial cooling step with a second and sometimes third pouring step. After each pour of hot wax, it is necessary to allow that additional amount to cool, shrink and solidify before additional wax is added. Eventually, this shrinkage hole is eliminated in this manner.

FIG. 2 is a diagrammatic illustration of the progressive configuration of the wax composition poured in a mold and processed in accordance with the present invention. As plainly seen in FIG. 2, the very surprising and easily noticed difference between the prior art is very evident.

As viewed from left to right, no difference is noted while the wax composition is still in the liquid state. In the second illustration a similar but less pronounced depression is noted as the wax composition begins to set up in a semisolid plastic state. However, in the third and fourth illustrations the rather dramatic difference becomes evident. As cooling progresses and crystallization is becoming complete, the central depression begins to dissipate. The wax appears to actually expand or at least fails to shrink further. In the last illustration, a slight rise if noted surrounding the wick.

While I cannot with certainty explain this phenomenon, the results are indeed unexpected and surprising. I theorize that the resinoid compound in some fashion modifies the crystallization process to reduce the normally expected excessive reduction in volume. Candles made from my process have been determined to be from about 7 percent up to 12 percent lighter than candles of the same volume made from conventional multistep processes.

I theorize that the unique planar orientation which has been observed by microscopic examination may well account for this result. This appears as one of the clear differences as compared to a wax composition processes similarly which does not contain the resinoid modifiers which I employ and which exhibits a very random, haphazard crystalline orientation.

Some difference in spacial and interspatial crystal relationship therefore appears to be at least one factor which may explain the counteraction of the normal expected shrinkage factor.

To more specifically define the resinoid modifier, I have used several components which may broadly be defined as naturally occurring resinoid compounds. Examples of these compounds include balsam tolu, bal-

sam peru, opponax, myrrh, oakmoss, olibanum, and styra-
x. The preferred compounds from this group are balsam peru, balsam tolu, and opponax. The preference is made primarily on the basis of the ease of com-

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commercial availability and price. However, those compounds less preferred, while working well as crystalline modifiers, also exhibit some undesirable side traits such as affecting the color of the candle or the like.

The resinoid modifier is first dissolved in a suitable carrier which preferably is at least partially soluble in the paraffin wax. This is desirable to achieve as complete and uniform mixing of the resinoid in the wax as possible. While there are many suitable carriers, preferred examples include di-octyl phthalate, di-ethyl phthalate, Herculon D, isopropyl palmitate, isopropyl myristate, and iso-stearic acid.

Di-ethyl phthalate is preferred primarily because it also functions as a mold release agent to expedite removal of the finished product from the mold. It has been found that the process works well and good blending of the resinoid compound in the wax is achieved by preparing between a 10 to 20 percent by weight solution of the resinoid in the carrier. Lower percentage solutions become undesirable if it becomes necessary to add too much of the carrier to the wax to obtain the desired amount of the resinoid compound. Higher percentage solutions are limited primarily at the point of a saturated solution of the resinoid in the carrier.

While an upper limit relative to the amount of the resinoid compound has not been established with certainty, the practical upper limit for most commercial applications appear to be related to the adverse effects of too large an amount of the carrier. A practical limit would appear to be 5 percent by weight of the resinoid. In accordance with the description herein, higher amounts of the resinoid only appear to be wasted once a sufficient amount is added to achieve the desired modification of crystal orientation. In some instances when the cooling period is extended, a higher resinoid content may be utilized. The practical commercial working limits for various wax compositions presently available to most candle manufacturers have been established as between a minimum of approximately 0.05 percent and 2 percent by weight of the batch. The preferred ranges are between 0.1 percent and 0.75 percent by weight.

**EXAMPLE I**

A predetermined amount of a bulk shipment of narrow cut paraffin wax of commercial grade and quality, having a melting point range of approximately 133°F to 135°F was placed in a suitable vessel and heated to melt the wax batch and also to raise the temperature of the wax to approximately 265°F. A previously prepared 10 percent solution of a resinoid compound, balsam peru, in a suitable carrier, di-ethyl phthalate, was added to the batch at this temperature. The amount of the solution added was calculated on the basis of adding an amount of balsam peru equal to 0.5 weight percent of the batch. Relatively vigorous stirring accompanied the addition of the balsam peru solution to assure thorough mixing of the components with the wax. Then the wax was conventionally poured into suitable candle molds having a 10 ounce volume.

The molds were disposed in a room having an ambient temperature of 70°F and left to cool. At approximately 90 to 120 minutes from the time of addition of the balsam peru, immediately followed by the pouring step, the wax in individual molds was essentially set-up in semi-solid form. During observation of the wax-filled molds, no excessive shrinkage hole was seen to form. In fact, after an initial shrinkage in volume while still in the liquid state, a slight depression was noted thereafter, which disappeared as the wax volume upon complete crystallization appeared to expand. A slight protrusion around the wick then appeared to form. No subsequent pouring step was required to obtain the uniform, substantially complete candle form observed. The candle removed from the mold was self-supporting, had good hardness, burning quality and a generally uniform surface finish. No readily observable surface pits or depressions were noted. In addition, a distinct pattern of appearance was noted throughout the candle which appears to the unaided eye as a plurality of small bubbles having a relatively uniform distribution.

**EXAMPLE II**

The same general procedures were followed as in Example I except, the resinoid compound was opopanax and the wax poured into a 28 ounce mold. The results were essentially the same as the results noted in Example I.

**EXAMPLE III**

The same general procedures were followed as in Example I except, the initial wax batch was heated to approximately 180°F at the time the balsam peru solution was added. The amount of balsam peru calculated as 0.20 percent by weight. The wax was poured to substantially fill a two ounce candle mold. The mold was immediately disposed in a closed chamber having an ambient temperature of 120°F. The mold was removed after three hours and observed. The wax in the mold was observed. It was in a soft, but solid condition and appeared fully crystallized. Otherwise the same results were noted as in Example I, however the general appearance, subjectively, was not quite as excellent as in Example I.

**EXAMPLE IV**

The same general procedure was followed as in Example I except the resinoid material was balsam tolu. The results were substantially the same as observed in Example I relative to the lack of excessive shrinkage and the absence of a large central hole in the crystallized wax product.

**EXAMPLES V - X**

The same general procedures were followed relative to Example I except the resinoid compound used in successive tests were respectively the following: Myrrh, galdanum, labdanum, benzoin, castorium and oakmoss. The results observed were considered good relative to the absence of a large central hole in the candle as usually occurs in known prior processes. The general appearance varied slightly between a relatively slight depression in the upper surface of the candle to substantially no appreciable depression surrounding the wick. The bubble-like pattern was apparent in each of the final wax products.

**EXAMPLE XI**

The same general procedures were followed as in Example I except the resinoid compound was added to the wax batch at 270°F and poured into a 28 ounce mold which was allowed to cool in an ambient temperature of approximately 50°F. The candle upon cooling and crystallization was observed to be substantially fully formed with no large hole in the center. The general
appearance was the same as in previous Examples.

EXAMPLE XII – XIV

The same general procedures were followed as in Example I with the exception that the wax batch contained the following percentages of micro-crystalline waxes respectively: between 1–2 percent; between 3–5 percent and between 5–10 percent. The micro-crystalline wax between these ranges were determined and appropriate amounts were added to the original paraffin wax prior to heating.

The results relative to the candles being fully formed the same as in Example I, however, the size of what appear to be "bubbles" were noticeably reduced as the percentage of micro-crystalline in the batch increased. What has been described as a bubble-like pattern appeared to contain the smallest individual bubbles in the final wax product having the composition including the 5–10 percent micro-crystalline wax content.

EXAMPLE XV

The same general procedures were followed as in Example I except the initial batch contained 3–5 percent of micro-crystalline wax. Fifteen percent by weight of stearic acid as a hardening agent and 2 percent by weight of a conventional perfume oil was added just prior to the addition of the balsam peru to the batch at the temperature of 265°F. No significant difference in visual results were noted as compared to Example XIII relative to appearance. The candle appeared to have the same degree of hardness as expected with use of stearic acid.

EXAMPLE XVI

The same general procedures were followed relative to Example XIV, that is a 5–10 percent of micro wax was contained in the batch, however, the amount of balsam peru was reduced to 0.1 percent by weight. No significant change in results were noted relative to the fully formed appearance of the candle with no central hole or void.

EXAMPLE XVII

The same general procedures were followed as in Example I except one percent by weight of balsam peru was added to the batch. No observable difference was noted in the resulting candles relative to the lack of a large central hole upon cooling and complete solidification.

EXAMPLE XVIII

The same general procedures were followed as in Example I except that 0.05 percent by weight of balsam peru was added to the batch at a temperature of 250°F and the wax was poured into a 28 ounce mold. The ambient cooling temperature was 90°F. After approximately 2 hours of cooling, the results were essentially the same as noted in Example I. It should also be pointed out relative to the above specific examples that other experiments were conducted within the described limits as disclosed herein and included conventional amounts of conventional hardening additive, as well as other additives which do not appear to adversely affect the desired results of the present invention. It is readily apparent that many combinations within the disclosed range of process parameters may be employed following the guidelines disclosed herein without departing from the spirit of the present invention. For example, all of the carriers mentioned herein for dissolving the resinoid prior to addition to the wax batch have been employed with successful results. No significant effects relative to operability were observed.

What is claimed is:

1. A method of making molded wax candles comprising the steps of heating a batch of paraffin wax having a melting point between 110°F to 155°F to a predetermined temperature between at least substantially 180°F and substantially 300°F; adding to the molten batch at said predetermined temperature at least substantially 0.05 percent by weight of a resinoid compound in solution in a carrier that is at least partially soluble in said wax with agitation to achieve substantially complete mixing of the resinoid compound in the batch; pouring said heated wax composition into suitable molds; allowing said wax to cool and subsequently crystallize in said molds; and wherein the cooling step is controlled to provide a lapse of time between adding said resinoid compound to the batch and the beginning of the crystallization of the wax composition in the mold of at least a minimum of approximately 30 minutes to a maximum of approximately eight hours to substantially eliminate the formation of a shrink-induced cavity.

2. The method defined in claim 1 wherein said resinoid compound is selected from a group consisting of myrrh, galdanum, opopanax, labdanum, benzoin, castorium, oakmos, obilum, stryax, balsam tolu and balsam peru.

3. The method defined in claim 1 wherein said carrier for said resinoid compound is selected from a group comprising dioctyl-phthalate, diethyl phthalate, isopropyl palmitate, isopropyl myristate, isostearic acid and Herculane D.

4. The method defined in claim 2 wherein said carrier for said resinoid compound is selected from a group comprising dioctyl phthalate, diethyl phthalate, isopropyl palmitate, isopropyl myristate, isostearic acid and Herculane D.

5. The method defined in claim 1 wherein said predetermined temperature to which said batch is heated is between approximately 250°F to 270°F and the ambient room temperature at which the wax is poured into the mold is between approximately 45°F to 120°F.

6. The method defined in claim 1 wherein the elapsed time between the addition of the resinoid compound and the beginning of the crystallization of the poured wax in the mold is maintained between a minimum of approximately 1½ hours to a maximum of approximately 3½ hours.

7. The method defined in claim 1 wherein the wax composition of the batch prior to addition of said resinoid compound includes up to approximately 15 percent by weight of a micro-crystalline wax.

8. The method defined in claim 7 wherein the weight percent of the resinoid compound added to the wax composition is between 0.1 to 1.0.

9. The method defined in claim 8 wherein between 0.25 to 5.0 percent by weight of a conventional perfume oil compound is added to the wax composition prior to the addition of the resinoid compound.

10. The method defined in claim 1 wherein said resinoid compound is selected from a group comprising balsam peru, balsam tolu, and opopanax and wherein the carrier in which said resinoid is dissolved is diethyl phthalate.
11. The method defined in claim 1 wherein the weight percent of said resinoid compound added to the wax composition is between 0.1 to 0.5 percent and wherein the wax composition includes between approximately 3 to 10 percent by weight of a micro-crystalline wax.

12. The method defined in claim 11 wherein said predetermined temperature of the wax batch at the time of addition of the resinoid compound is between 260°F and 270°F and the ambient temperature at which the wax is permitted to cool upon pouring it into the molds is between approximately 65°F and 90°F.

13. The method defined in claim 1 wherein the volume the wax composition poured into the molds is between approximately two ounces and 100 ounces.

14. The method defined in claim 12 wherein the volume of the wax composition poured into the molds is between approximately 2 ounces and 60 ounces.

15. The method defined in claim 1 wherein the ambient temperature at which the poured wax composition is subjected to cooling is between 45°F to 120°F for at least a time greater than 30 minutes and until at least crystallization of approximately one-half or more of the diameter of the candle volume occurs.

16. The method defined in claim 1 wherein the batch of paraffin wax consists of a narrow cut wax having a melting point between 120°F and 155°F and a carbon atom distribution number range between C-22 to C-35.

17. The method defined in claim 1 wherein the batch of paraffin wax consists of a blend of wide cut waxes and narrow cut waxes.

18. The method defined in claim 1 wherein the wax composition volume for any individual mold is at least one ounce and no greater than 100 ounces.

19. A molded, single pour, paraffin wax candle article having a volume of between one ounce and 100 ounces made by a process comprising the steps of heating a batch of paraffin wax having a melting point between 110°F to 155°F to a predetermined temperature between at least 180°F and 300°F; subsequently adding to the molten batch at a given temperature between 180°F and 300°F at least 0.05 to 1.0 percent by weight of a naturally occurring resinoid compound selected from a group consisting of myrrh, galadanum, opponax, labdanium, benzoin, castorium, oakmos, obilbanum, stryrox, balsam tolu and balsam peru which is dissolved in a carrier that is at least partially soluble in the wax with agitation to achieve substantially complete mixing of the resinoid compound in the batch, pouring said heated wax composition into suitable molds at an ambient temperature which allows said wax to cool and subsequently crystallize in said molds; and wherein the time lapse between adding said resinoid compound to the batch and the beginning of the crystallization of the wax composition in the mold is at least greater than approximately 30 minutes and no longer than approximately 8 hours, said article being characterized by the absence of a substantial shrink cavity, by a substantial reduction of density as compared to a wax composition not containing a resinoid compound added thereto in accordance with the process described and the visual appearance of spherical inclusions.

20. The article defined in claim 19 wherein the resinoid compound is selected from a group consisting of myrrh, galadanum, opponax, labdanium, benzoin, castorium, oakmos, obilbanum, stryrox, balsam tolu and balsam peru.

21. The method according to claim 1 wherein said resinoid compound is balsam peru.

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