VESSEL CLOSURE SYSTEM INCORPORATING HIDDEN MESSAGE

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ABSTRACT

A vessel closure system incorporating at least one hidden message is provided. The system includes a stopper reversibly occluding a vessel, and reversibly placing the vessel in fluid communication with an ambient atmosphere, in which the stopper has at least a first portion and a second part that incorporates a hidden message. The message may be humanly visually-perceptible indicia, or may further include stored, machine readable code. The message may be associated with any one of the surfaces of the stopper, or may be at least partially contained within a stopper void. The message may be included on a thin strip of material held between the stopper and the inside of a vessel neck. In some embodiments the stopper second portion may be envisioned as a type of “collar,” of many possible thicknesses, around part of the stopper first portion and the stopper portions may be adhered with an adhesive.
VESSEL CLOSURE SYSTEM INCORPORATING HIDDEN MESSAGE

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 61/094,468; filed Sep. 5, 2008; all of which is incorporated by reference as if completely written herein.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0002] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0003] Not applicable.

THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT

[0004] Not applicable.

INCORPORATION BY REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC

[0005] Not applicable.

BACKGROUND OF THE INVENTION

[0006] (1) Technical Field
[0007] The disclosure herein relates to vessel closure systems, particularly a vessel closure system incorporating a hidden message.
[0008] (2) Description of Related Art Including Information Disclosed Under 37 C.F.R. 1.97 and 1.98
[0009] Without intending the relation of the following to constitute any admission as to the nature of prior art, related art includes U.S. Pat. No. 4,696,640; for a candle with a message inside which is exposed when the candle is burned or used. Related art also includes bars of soap with messages inside which are exposed when the soap bar is used; such as may be seen, in part, in U.S. Pat. Nos. 4,081,394 and 3,413, 230.
[0010] (3) Background of the Invention
[0011] Many wine bottles have sealed corks with text written on the stopper, which, in a common embodiment, is a cork. Typically, but not exclusively, this text may be heat-branded or printed on the stopper. The text is generally related to the origin of the wine or the year in which the wine was produced. However, no corks, or bottle stoppers have detailed or individualized messages associated with them. The subject invention satisfies the above deficiency and allows users to have an enhanced experience by getting a bottle stopper and message with an individualized, or in some manner customized, written, audio or video message associated with a bottle of wine, either still or sparkling, or, as one skilled in the art would realize, any bottled item.
[0012] Wine stoppers with extensions or handles exist in the market and are used to temporarily seal a wine bottle after it has been opened. These wine stoppers are designed to preserve the wine after the original seal of the bottle has been opened and the cork or bottle stopper removed. These wine stoppers have handles or extensions that are attached to the cork or bottle stopper. The handles or extensions are outside of the bottle while the bottle stopper or cork is inside the bottle. Some of these wine stoppers have terms of endearment or logos on the handle or extension part of the wine stopper so that they are visible from outside the bottle.

[0013] The subject invention is different from existing vessel stoppers in many respects, but at least because it is based on a vessel stopper with a message enclosed where the stopper is inserted in the vessel at the time of manufacture and, in some embodiments, requires that the vessel stopper from the originally sealed vessel be removed in order to view the message. The subject invention enhances the experience of opening the originally sealed vessel by providing the user with an experience of receiving a potentially individualized or otherwise custom message with the vessel.

BRIEF SUMMARY OF INVENTION

[0014] In its most general configuration, the vessel closure system incorporating hidden message advances the state of the art with a variety of new capabilities and overcomes many of the shortcomings of prior devices in new and novel ways. In its most general sense, the vessel closure system incorporating hidden message overcomes the shortcomings and limitations of the prior art in any of a number of generally effective configurations. The vessel closure system incorporating hidden message demonstrates such capabilities and overcomes many of the shortcomings of prior methods in new and novel ways.

[0015] The vessel closure system incorporating hidden message provides a method for incorporating hidden messages in association with a stoppered vessel containing still or sparkling wine, or as one skilled in the art would realize, any beverage, foodstuff or other item which may be contained in a stoppered vessel.

[0016] The stopper of the system may have a stopper first portion and a stopper second portion. The stopper second portion may further include a hidden message; and such message may take many forms, as will be described in exemplary embodiments, below. The system also includes a vessel.

[0017] In a relatively simple embodiment, the message may include humanly visually-perceptible indicia applied to the stopper second portion. Such indicia would be commonly envisioned as language text, but could also be any form of code or symbolic devices, and in some embodiments, the indicia is not visually perceptible through the vessel wall. In some embodiments, the message included on the stopper second portion is at least partially in contact with the vessel wall neck portion inside surface.

[0018] In some embodiments, by way of example only, the stopper second portion may be envisioned as a type of “collar” around part of the stopper first portion. Such a collar may be of virtually any thickness equal to or less than the stopper diameter, and in detailed embodiments described below, various resiliency and porosity relationships within the stopper are described.

[0019] There are no particular methods required for joining of the stopper first portion and the stopper second portion, which need not even be physically joined at all, although there are some embodiments where the stopper second portion is adhered to the stopper first portion with an adhesive.

[0020] In addition to the myriad embodiments where the hidden message may be humanly-perceptible indicia, the stopper second portion may include stored, machine readable code. By way of example, such code could be represented in a large number of forms and embodiments, including such
devices as chips and computer drives, having both read-only, and writable memory devices.

[0021] To facilitate such hidden messages as part of a stopper second portion, the stopper may have a stopper internal void and the stopper second portion may be at least partially contained in the stopper internal void. The stopper internal void may be in virtually any position relative to the first stopper portion and may be in actual or potential communication with an external surface of the stopper.

[0022] The stopper may include a stopper third portion cooperating with either or both the stopper first portion and/or the stopper second portion. There is no particular volume relationship between the stopper internal void and the stopper second portion which may fully fill the stopper internal void or only partially fill the stopper internal void, and a puncture barrier may help protect the stopper void, and hence, the stopper second portion.

[0023] The vessel closure system incorporating hidden message disclosed herein enables a significant advance in the state of the art. Variations, modifications, alternatives, and alterations of the various preferred embodiments may be used alone or in combination with one another, as will become more readily apparent to those with skill in the art with reference to the following detailed description of the preferred embodiments and the accompanying figures and drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0024] Without limiting the scope of the vessel closure system incorporating hidden message as claimed below and referring now to the drawings and figures:

[0025] FIG. 1 is a cross-section of prior art related to vessel closure systems;

[0026] FIG. 2 is a cross-section view of an embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0027] FIG. 3 is a cross-section view of an embodiment of a vessel closure system according to the instant invention;

[0028] FIG. 4 is an exploded cross-section view of an embodiment of a vessel closure system according to the instant invention;

[0029] FIG. 5 is an elevated perspective view of an embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0030] FIG. 6 is an exploded cross-section view of an embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0031] FIG. 7 is an exploded cross-section view of another embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0032] FIG. 8 is a cross-section view of another embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0033] FIG. 9 is an exploded cross-section view of another embodiment of a stopper as part of a vessel closure system according to the instant invention;

[0034] FIG. 10 is a cross-section view of another embodiment of a stopper as part of a vessel closure system according to the instant invention; and

[0035] FIG. 11 is a cross-section view of another embodiment of a stopper as part of a vessel closure system according to the instant invention.

[0036] These drawings are provided to assist in the understanding of the exemplary embodiments of the invention as described in more detail below and should not be construed as unduly limiting the invention. In particular, the relative spacing, positioning, sizing and dimensions of the various elements illustrated in the drawings are not drawn to scale and may have been exaggerated, reduced or otherwise modified for the purpose of improved clarity. Those of ordinary skill in the art will also appreciate that a range of alternative configurations have been omitted to simplify the clarity and reduce the number of drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0037] A vessel closure system incorporating hidden message (10) enables a significant advance in the state of the art. The preferred embodiments of the device accomplish this by new and novel arrangements of elements and methods that are configured in unique and novel ways and which demonstrate previously unavailable but preferred and desirable capabilities. The detailed description set forth below in connection with the drawings is intended merely as a description of the presently preferred embodiments of the vessel closure system incorporating hidden message (10), and is not intended to represent the only form in which the vessel closure system incorporating hidden message (10) may be constructed or utilized. The description sets forth the designs, functions, means, and methods of implementing the vessel closure system incorporating hidden message (10) in connection with the illustrated embodiments. It is to be understood, however, that the same or equivalent functions and features may be accomplished by different embodiments that are also intended to be encompassed within the spirit and scope of the claimed vessel closure system incorporating hidden message (10).

[0038] The vessel closure system incorporating hidden message (10) disclosed herein provides a method for conveniently enclosing at least one hidden message is a stoppered vessel containing still or sparkling wine, or as one skilled in the art would realize, any beverage, foodstuff or other item which may be contained in a stoppered vessel. By way of reference a typical stoppered vessel from the prior art, shown by way of example and not limitation only as a corked bottle, is seen in FIG. 1.

[0039] As seen in FIGS. 1-11, and initially as in FIGS. 1 and 2, the vessel closure system (10) of the invention may include a stopper (100); having at least a stopper first portion (110) formed of a stopper material having material properties that include a stopper first material resiliency and a stopper first material porosity. The stopper (100) may have at least one stopper first portion sealing surface (111), at least one stopper first portion top surface (112), and at least one stopper first portion bottom surface (114).

[0040] The stopper (100) also may include at least a stopper second portion (150) formed of a stopper second material having material properties that include a stopper second material resiliency and a stopper second material porosity. The stopper second portion (150) may further include a hidden message; and such message may take many forms, as will be described in exemplary embodiments, below.

[0041] The system also includes, in cooperation with the stopper (100), a vessel (200) having at least a vessel wall (205) enclosing a vessel volume (240). There is at least a vessel opening (202) in the vessel wall (205) placing the vessel volume (240) in fluid communication with an ambient atmosphere. There are also various structural subdivisions, which may be conceptual rather than representing any obvi-
ous physical demarcation, which include the vessel having a vessel wall neck portion (210) having a vessel wall neck portion inside surface (212), and a vessel wall neck portion outside surface (214). For the purposes of this teaching, and considering that many vessels may not have elongated or otherwise immediately obvious physical neck portions (210), it is specifically intended that the vessel neck portion (205) represents any portion of the vessel wall (205) cooperating with the stopper (100) for closure of the vessel (200).

[0042] The vessel (200) may also have a vessel wall body portion (230) having a vessel wall body portion inside surface (232) and a vessel wall body portion outside surface (234). The stopper (100) is at least partially containable within the vessel opening (202) and the stopper first portion sealing surface (111) may cooperate with the vessel neck portion wall (210) to reversibly seal the vessel opening (202) and thereby place the vessel volume (240) in reversible fluid communication with the ambient atmosphere.

[0043] The hidden message may take many forms. In a relatively simple embodiment, the message may include humbly visually-perceivable indicia (300) applied to the stopper second portion (150), such as in seen in FIG. 2. Such indicia (300) might be commonly envisioned as language text, but could also be any form of code or symbolic devices. In another embodiment, the indicia (300) are not visually perceptible through the vessel wall (205). Such obscuration of the message may be accomplished, by way of example and not limitation, by any means known to one skilled in the art, such as using an opaque or translucent vessel wall (205) material, orienting the message so that it could not be seen through the vessel wall (205), or covering the appropriate area of the vessel wall (205) with an opaque application of material.

[0044] In some embodiments, the message included on the stopper second portion (150) is at least partially in contact with the vessel wall neck portion inside surface (212), as seen in FIGS. 2 and 3. The amount of stopper second portion (150), in such embodiments, in contact with the vessel wall neck portion inside surface (212) may be highly variable, and in certain embodiments, the stopper second portion (150) has a stopper second portion surface area in contact with the vessel wall neck portion inside surface (212) that is less than or equal to 50% of a stopper first portion surface area of the stopper first portion sealing surface (111) in contact with the vessel wall neck portion inside surface (212). Such proportions will be easily calculable by one skilled in the art to take into account factors such as the relative sealing needs of the vessel (200) and any contents, and the relative sealing qualities of the stopper first portion (110) and stopper second portion (150).

[0045] In some embodiments, such as those seen in FIGS. 3-5, the vessel closure system (10), is configured such that the stopper first portion (110) and the stopper second portion (150) are cylindrical and coaxial and the stopper first portion (110) has at least a first stopper first portion diameter (116) that is larger than at least one stopper second portion diameter (156). This may, by way of example, allow for compression of the stopper first portion (110) greater than any compression of the stopper second portion (150) to improve the sealing qualities of the system. For example, FIG. 3 illustrates such an embodiment, when the stopper (100), not placed in the vessel (200), has a first stopper first portion diameter (116) that is larger than at least one stopper second portion diameter (156). This, functionally, is intended to represent a relatively more compressible stopper first portion (110), that will become more compressed that the stopper second portion (150), which may be non-compressible or effectively non-compressible, when the system (10) is assembled.

[0046] In other embodiments, the vessel closure system may be seen, as illustrated in FIGS. 4 and 5, such that at least one stopper first portion diameter (116) further comprises at least a first stopper first portion diameter (116) and at least a second stopper first portion diameter (117) where the at least one second stopper first portion diameter (117) is less than at least one stopper second portion diameter (156). Thus, by way of example only, the stopper second portion (150) may be envisioned as a type of “collar” around part of the stopper first portion (110).

[0047] There is no particular thickness, again in reference to FIGS. 4 and 5, measured in a radial direction from the center of the stopper (100) envisioned as being required for the stopper second portion (150) in any embodiment, nor any particular resiliency, or porosity. In some embodiments, the stopper second portion (150) may be a relatively thin and relatively non-porous sheet material that is held between the stopper first portion (110) and the vessel wall neck portion inside surface (212). Further illustrative embodiments, include embodiments where the stopper second material porosity is less than 10% and the stopper second portion (150) has a stopper second portion width (152), and a stopper second portion thickness (153), and wherein the stopper second portion thickness (153) is less than 20% of the stopper second portion width (152).

[0048] As noted, there is also no particular resiliency or porosity required in the materials of which the stopper first portion (110), and the stopper second portion (150) are made, other than to satisfy the requirement of one skilled in the art that the system (10) possess adequate sealing function. There is also no particular requirement as to the individual contribution to sealing made by the stopper first portion (110) and the stopper second portion (150), so long as the combined contribution of these elements is adequate. To the extent that proper sealing is related to the compression of an at least partially resilient stopper (100), embodiments are envisioned in which the first stopper material resiliency is at least ten times as great as the second stopper material resiliency. There are also embodiments envisioned in which the first stopper material resiliency is at least fifty times as great as the second stopper material resiliency. Such relationships are calculated by reference to Modulus of Resilience, $U_0$, of the stopper materials, which can be calculated using the following formula:

$$U_0 = \frac{\sigma^2}{2E} = 0.5\sigma \epsilon = 0.5\sigma \epsilon \left(\frac{\sigma}{E}\right),$$

where $\sigma$ is yield stress, $E$ is Young’s modulus, and $\epsilon$ is strain.

[0049] As to porosity, other than having, as one skilled in the art would know, adequate breathability to suit the contents of the vessel (200), there are also no particular requirements as to the porosity of the materials forming individual components of the stopper (100), other than the functional requirements previously delineated. In some embodiments, functionality in enhanced by utilizing materials of differing porosity within the stopper (100), and embodiments are envisioned in which the stopper first material porosity is at least ten times as great as the stopper second material porosity.
There are no particular methods required for joining of the stopper first portion (110) and the stopper second portion (150), which need not even by physically joined at all, although there are some embodiments where the stopper second portion (150) is adhered to the stopper first portion (110) with an adhesive. One skilled in the art will be able to determine suitable adhesives, including suitable non-toxic adhesives appropriate for special circumstances such as in the beverage or foodstuff industries.

In addition to the myriad embodiments where the hidden message may be humanly-perceptible indicia as part of the stopper second portion (150), such a stopper second portion (150) may to some extent include stored, machine readable code. By way of example, such code could be represented in a large number of forms and embodiments, including such devices as chips and computer drives, having both read-only, and possibly writable memory devices.

To facilitate such hidden messages as part of a stopper second portion (150), the stopper (100) may have a stopper internal void (180) and the stopper second portion (150) may be at least partially contained in the stopper internal void (180), such as is seen in FIGS. 6-11. Various illustrative embodiments of stopper internal voids (180) may be seen in FIGS. 6 and 7. There are no particular size requirements as to the stopper internal void (180) and no particular requirements as to whether the stopper internal void (180) may be in actual or potential communication with an external surface of the stopper. For example, in one potential embodiment, it may be necessary to break the stopper (100) open in order to access the stopper internal void (180).

In various other embodiments, the stopper (100) may include a stopper third portion (190) that is at least in partial contact with the stopper first portion (110) and the stopper second portion (150), and those where there is a stopper third portion (190) that is at least in partial contact with the stopper second portion (150), as seen in FIG. 8. The stopper internal void (180) may be at least partially bounded by the stopper first portion (110) at least partially bounded by the stopper third portion (190), again as illustrated in FIG. 8. The stopper internal void (180) may be at least partially bounded by a stopper third portion (190), as seen in FIG. 9.

Variations on such embodiments are illustrated by way of example only in FIGS. 8-10. There is no particular volume relationship between the stopper internal void (180) and the stopper second portion (150) which may fully fill the stopper internal void (180) as illustrated in FIGS. 8 and 9, or only partially fill the stopper internal void (180), as illustrated in FIG. 10. As seen in FIG. 9, a portion of the stopper first portion (110) the stopper second portion (150) may lie outside of the vessel (200) and vessel volume (240). This may be particularly appropriate for certain types of beverage stoppers, such as the prototypical sparkling wine style stopper illustrated, by way of example only and not limitation, in FIG. 11. In such an embodiment, the stopper second portion (150) may be, but is not necessarily, covered by wax, metal foil or a metal device.

It may be desirable, in some embodiments, to at least partially protect the stopper second portion (150) from the effects of certain vessel (200) opening technologies. For example, it may be desirable to at least partially protect the stopper second portion (150) from the depredations of a cork-screw, and it may desirable for the stopper first portion (110) and the stopper second portion (150) to have a stopper portion interface (160) that at least partially includes a puncture barrier (170).

One skilled in the art will note that there is no particular requirement that any stopper internal void (180) communicate with any particular surface of the stopper (100), if there is, in fact, any such communication with a surface at all. In one embodiment, the stopper internal void (180) is at least partially bounded by the stopper top surface (110), and potentially, the hidden message included in the stopper second portion (150) may be accessed without removing the stopper (100) from the vessel (200).

In one particular, and not exclusionary embodiment, the vessel closure system (10) includes a stopper (100) having a stopper internal void (180), and at least some of the following features. There is at least a stopper first portion (110) formed of a stopper first material having a stopper first material resilience and a stopper first material porosity. The stopper first portion (110) has at least one stopper first portion sealing surface (111), at least one stopper first portion top surface (112), and at least one stopper first portion bottom surface (114).

The vessel closure system may further include at least a stopper second portion (150) at least partially contained within the stopper internal void (180) and formed of a stopper second material having a stopper second material resilience less than that of the stopper first material resilience and a stopper second material porosity less than that of the stopper first material porosity. The stopper section portion (150) may include a hidden message that further encompasses, at least in part, stored, machine readable code.

In such an embodiment, the vessel (200) may have at least a vessel wall (205) enclosing a vessel volume (240), and at least a vessel opening (202) in the vessel wall (205) placing the vessel volume (240) in fluid communication with an ambient atmosphere. As part of the vessel wall (205), the embodiment may have a vessel wall neck portion (210) with a vessel wall neck portion inside surface (212), and a vessel wall neck portion outside surface (214). There may be a vessel wall body portion (230) having a vessel wall body portion inside surface (232) and a vessel wall body portion outside surface (234).

As detailed in other embodiments above, the stopper (100) is at least partially containable within the vessel opening (202) and the stopper first portion sealing surface (111) cooperates with the vessel neck portion wall (210) to reversibly seal the vessel opening (202) and thereby place the vessel volume (240) in reversible fluid communication with the ambient atmosphere.

One skilled in the art will readily see that any features taught above may be combined with other features, even if such combination has not been explicitly iterated or illustrated above.

Numerous alterations, modifications, and variations of the preferred embodiments disclosed herein will be apparent to those skilled in the art and they are all anticipated and contemplated to be within the spirit and scope of the claimed vessel closure system incorporating hidden message (10). For example, although specific embodiments have been described in detail, those with skill in the art will understand that the preceding embodiments and variations can be modified to incorporate various types of substitute and or additional or alternative materials, relative arrangement of elements, and dimensional configurations. Accordingly, even
though only few variations of the vessel closure system incorporating hidden message (10) are described herein, it is to be understood that the practice of such additional modifications and variations and the equivalents thereof, are within the spirit and scope of the vessel closure system incorporating hidden message (10) as defined in the following claims. The corresponding structures, materials, acts, and equivalents of all means or step plus function elements in the claims below are intended to include any structure, material, or acts for performing the functions in combination with other claimed elements as specifically claimed.

1 claim:
1. A vessel closure system (10), comprising:
   (A) a stopper (100);
   (i) having at least a stopper first portion (110) formed of a stopper first material having a stopper first material resilience and a stopper first material porosity, at least one stopper first portion sealing surface (111), at least one stopper first portion top surface (112), and at least one stopper first portion bottom surface (114);
   (ii) at least a stopper second portion (150) formed of a stopper second material having a stopper second material resilience and a stopper second material porosity, comprising a hidden message;
   (B) a vessel (200) having at least a vessel wall (205) enclosing a vessel volume (240), at least a vessel opening (202) in the vessel wall (205) placing the vessel volume (240) in fluid communication with an ambient atmosphere, wherein the vessel wall (205) further comprises;
   (i) a vessel wall neck portion (210) having a vessel wall neck portion inside surface (212), and a vessel wall neck portion outside surface (214);
   (ii) a vessel wall body portion (230) having a vessel wall body portion inside surface (232) and a vessel wall body portion outside surface (234); and
   (C) wherein the stopper (100) is at least partially containable within the vessel opening (202) and the stopper first portion sealing surface (111) cooperates with the vessel neck portion wall (210) to reversely seal the vessel opening (202) and thereby place the vessel volume (240) in reversible fluid communication with the ambient atmosphere.

2. The vessel closure system (10) according to claim 1, wherein the hidden message comprises humanly visually-perceptible indicia (300) applied to the stopper second portion (150).
3. The vessel closure system (10) according to claim 2, wherein the indicia (300) is not visually perceptible through the vessel wall (205).
4. The vessel closure system (10) according to claim 1, wherein the stopper second portion (150) is at least partially in contact with the vessel wall neck portion inside surface (212).
5. The vessel closure system (10) according to claim 4, wherein the stopper second portion (150) has a stopper second portion surface area in contact with the vessel wall neck portion inside surface (212) that is less than or equal to 30% of a stopper first portion surface area of the stopper first portion sealing surface (111) in contact with the vessel wall neck portion inside surface (212).
6. The vessel closure system (10) according to claim 1, wherein the stopper first portion (110) and the stopper second portion (150) are cylindrical and coaxial and the stopper first portion (110) has at least a first stopper first portion diameter (116) that is larger than at least one stopper second portion diameter (156).
7. The vessel closure system (10) according to claim 6, wherein the at least one stopper first portion diameter (116) further comprises at least a stopper first portion diameter (116) and at least a second stopper first portion diameter (117) where the at least one stopper first portion diameter (117) is less than at least one stopper second portion diameter (156).
8. The vessel closure system (10) according to claim 1, wherein the stopper second material porosity is less than 10% and the stopper second portion (150) has a stopper second portion width (152), and a stopper second portion thickness (153), and wherein the stopper second portion thickness (153) is less than 20% of the stopper second portion width (152).
9. The vessel closure system (10) according to claim 1, wherein the first stopper material resilience is at least ten times as great as the second stopper material resilience.
10. The vessel closure system (10) according to claim 1, wherein the first stopper material resilience is at least fifty times as great as the second stopper material resilience.
11. The vessel closure system (10) according to claim 1, wherein the stopper second portion (150) is adhered to the stopper first portion (110) with a non-toxic adhesive.
12. The vessel closure system (10) according to claim 1, wherein the stopper second portion material porosity is at least ten times as great as the second stopper material porosity.
13. The vessel closure system (10) according to claim 1, wherein at least a portion of the stopper first portion (110) and the stopper second portion (150) are outside of the vessel volume (240).
14. A vessel closure system (10), comprising:
   (A) a stopper (100);
   (i) having at least a stopper first portion (110) formed of a stopper first material having a stopper first material resilience and a stopper first material porosity, at least one stopper first portion sealing surface (111), at least one stopper first portion top surface (112), and at least one stopper first portion bottom surface (114);
   (ii) at least a stopper second portion (150) formed of a stopper second material having a stopper second material resilience and a stopper second material porosity, comprising a hidden message;
   (B) a vessel (200) having at least a vessel wall (205) enclosing a vessel volume (240), at least a vessel opening (202) in the vessel wall (205) placing the vessel volume (240) in fluid communication with an ambient atmosphere, wherein the vessel wall (205) further comprises;
   (i) a vessel wall neck portion (210) having a vessel wall neck portion inside surface (212), and a vessel wall neck portion outside surface (214);
   (ii) a vessel wall body portion (230) having a vessel wall body portion inside surface (232) and a vessel wall body portion outside surface (234); and
   (C) wherein the stopper (100) is at least partially containable within the vessel opening (202) and the stopper first portion sealing surface (111) cooperates with the vessel neck portion wall (210) to reversely seal the vessel opening (202) and thereby place the vessel volume (240) in reversible fluid communication with the ambient atmosphere.

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15. The vessel closure system (10) according to claim 14, wherein the stopper (100) further comprises a stopper internal void (180) and the stopper second portion (150) is at least partially contained in the stopper internal void (180).

16. The vessel closure system (10) according to claim 14, further comprising a stopper third portion (190) that is at least in partial contact with the stopper first portion (110) and the stopper second portion (150).

17. The vessel closure system (10) according to claim 14, further comprising a stopper third portion (190) that is at least in partial contact with the stopper second portion (150).

18. The vessel closure system (10) according to claim 14, wherein the stopper first portion (110) and the stopper second portion (150) have a stopper portion interface (160) that at least partially comprises a puncture barrier (170).

19. The vessel closure system (10) according to claim 15, wherein the stopper internal void (180) is at least partially bounded by a stopper third portion (190).

20. The vessel closure system (10) according to claim 15, wherein the stopper internal void (180) is at least partially bounded by the stopper first portion (110) and at least partially bounded by the stopper third portion (190).

21. The vessel closure system (10) according to claim 15, wherein the stopper internal void (180) is at least partially bounded by the stopper top surface (110).

22. A vessel closure system (10), comprising:
   (A) a stopper (100) having a stopper internal void (180); and
   (i) having at least a stopper first portion (110) formed of a stopper first material having a stopper first material resilience and a stopper first material porosity, at least one stopper first portion sealing surface (111), at least one stopper first portion top surface (112), and at least one stopper first portion bottom surface (114);
   (ii) at least a stopper second portion (150) at least partially contained within the stopper internal void (180) and formed of a stopper second material having a stopper second material resilience less than that of the stopper first material resilience and a stopper second material porosity less than that of the stopper first material porosity, comprising a hidden message that further comprises stored, machine readable code;
   (B) a vessel (200) having at least a vessel wall (205) enclosing a vessel volume (240), at least a vessel opening (202) in the vessel wall (205) placing the vessel volume (240) in fluid communication with an ambient atmosphere, wherein the vessel wall (205) further comprises:
   (i) a vessel wall neck portion (210) having a vessel wall neck portion inside surface (212), and a vessel wall neck portion outside surface (214); and
   (ii) a vessel wall body portion (230) having a vessel wall body portion inside surface (232) and a vessel wall body portion outside surface (234); and
   (C) wherein the stopper (100) is at least partially containable within the vessel opening (202) and the stopper first portion sealing surface (111) cooperates with the vessel neck portion wall (210) to reversibly seal the vessel opening (202) and thereby place the vessel volume (240) in reversible fluid communication with the ambient atmosphere.

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