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SPIRITS-AGING CONTAINER

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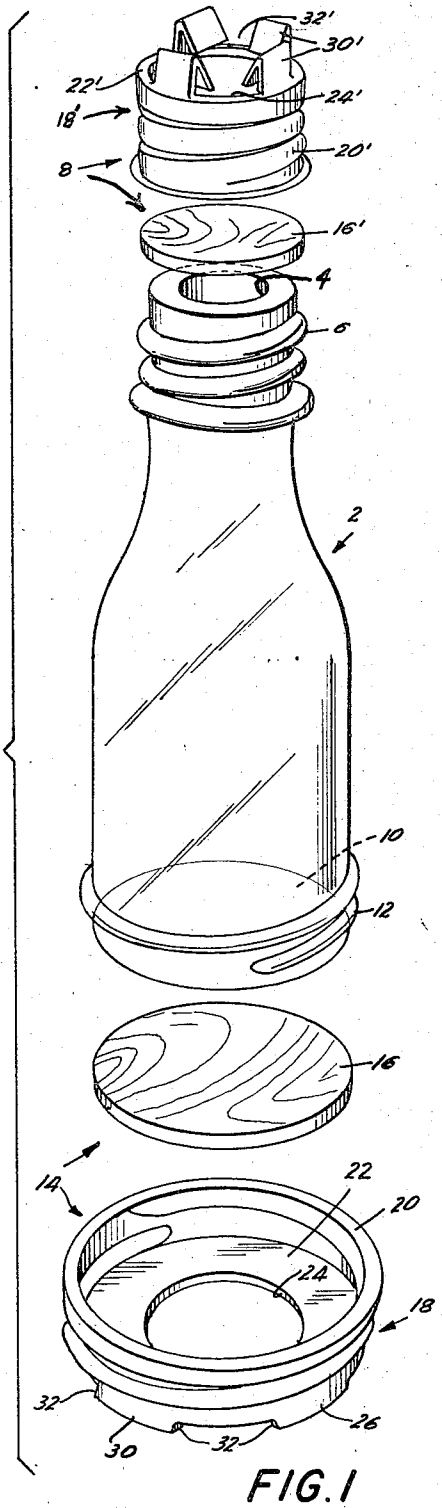


FIG. 1

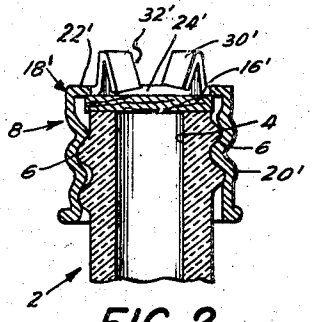
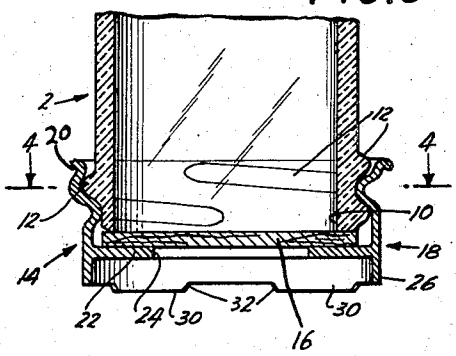


FIG. 2

FIG. 3



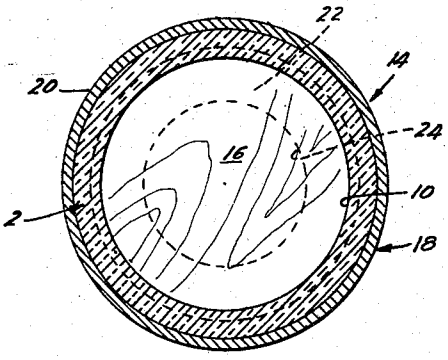


FIG. 4

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SPIRITS-AGING CONTAINER

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8 Claims. (Cl. 99—277.1)

The present invention relates to a container for receiving whiskey or other spirits which is largely of conventional construction but is modified in order to permit the whiskey or other spirits to age while it is in the container.

It is well known that various types of alcoholic beverages, after they have been distilled, must be subjected to an aging operation which removes harmful or unpleasant constituents and greatly improves the potability of the beverage. The most satisfactory and widely used aging process involves bringing the liquor into contact with wood for an extended period of time. This is normally accomplished by storing the liquor in large wooden kegs or barrels for the period of time required, after which the aged liquor is put into bottles and shipped. The liquor may stand in the bottles for a long period of time before it is consumed, but no aging whatsoever takes place during this latter period because of the material of which the bottle is made.

It has long been considered desirable to permit the liquor to age while it is in the bottle, as a substitute either for all or a part of the time that it is normally stored within wooden barrels. Various expedients have been proposed to this end, but none have been successful.

It is the prime object of the present invention to devise a bottle or like container formed primarily of conventional material such as glass and which may be manufactured at low cost in accordance with conventional techniques, but in which an appreciable degree of aging of the contained liquor will ocur.

There are apparently two factors involved in the aging operation performed by wood on liquor. One is the actual contact between the wood and the liquor. The other derives from the porosity of the wood involved, by means of which, it would appear, certain of the by-products of the chemical reaction between the wood and the liquor can escape. In acordance with the present invention, structure has been devised which takes into account both of these necessary conditions and which, in its preferred form, ensures that an effective aging action will take place no matter in what position the bottle may be stored.

To that end the body of the bottle is substantially conventional (although its neck may, if desired, be made wider than is ordinarily the case), but the body is open-ended both at its bottom as well as its top. Means are provided for closing these open ends, the means for at least the bottom end including a wooden element one surface of which is exposed to the interior of the bottle so as to be engaged by the liquor contents thereof and the other surface of which is bared or exposed to the atmosphere. These wooden elements may be held in place by means of ring-like closures removably attachable to the bottle body, these closures being so designed as to support the bottle with the outer surface of the wooden element lifted above the shelf or table on which the bottle rests. Means are provided to permit free access of the atmosphere to the exposed outer surface of the wooden element. In this way the requisite contact between the wooden element and the liquor contents is ensured and at the same time the porosity of the wood is rendered effective to permit the aging operation to proceed.

All of the parts of the container may be made at low cost by means of conventional apparatus and their assembly presents no problems whatsoever.

To the accomplishment of the above, and to such other objects as may hereinafter appear, the present invention relates to the construction of a spirits-aging container as defined in the appended claims and as described in this specification, taken together with the accompanying drawings, in which:

Fig. 1 is a three-quarter perspective exploded view of a preferred embodiment;

Fig. 2 is a fragmentary vertical cross sectional view of the top of the container with the appropriate parts assembled;

Fig. 3 is a view corresponding to Fig. 2 but of the bottom of the container; and

Fig. 4 is a cross sectional view taken along the line 4—4 of Fig. 3.

The spirits-aging container of the present invention is here disclosed in the form of a bottle having a body **2** formed of glass, plastic or other conventional bottle material and of any desired shape (except that its upper end may, if desired, be somewhat wider than is normal in the case of a liquor bottle, for purposes hereinafter set forth). At the top the body **2** is provided with an open end **4**, as is conventional, in order that the contents may be emptied therefrom when and to the extent desired. Screw threads **6** are provided on the exterior of the neck of the bottle and a top closing means generally designated **8** is threadedly engageable therewith. The wide bottom end **10** of the body **2** is also open, and the body is provided with screw threads **12** at that lower end with which a bottom closing means generally designated **14** is threadedly engageable.

The bottom closing means **14** is defined, in the form here specifically disclosed, by a wooden element **16** in the form of a plate or disk, and by a ring-like cap **18**. The wooden element **16** is formed of any one of the known types of wood which effectively permit aging of liquor, such as charred oak, and is of a size such as to cover and close the open bottom end **10** of the glass body **2**. As may be seen from Fig. 3, it is positioned directly against the lower end of the body **2**, although, if desired, a suitable sealing gasket or other form of sealing material may be interposed therebetween. The wooden element **16** is retained against the lower edge of the body **2** by means of the ring-like cap **18**, which is provided with an upstanding internally threaded rim flange **20** adapted to be screwed over the external threads **12** on the bottom of the body **2**. Extending radially inwardly from the flange **20** is a ring-like shelf **22** having a central opening **24**, so positioned with respect to the flange **20** that as the latter is screwed onto the lower end of the body **2** the shelf **22** will engage the wooden element **16** and press it firmly against the lower end of the body **2**, at the same time exposing through its opening **24** a substantial portion of the area of the lower surface of the wooden element **16**. The cap **18** is further provided with a depending flange **26** terminating at its lower edge in protrusions **30** separated by openings **32**, the protrusions **30** thus serving as feet when the container is supported in upright position on a shelf or the like, the openings **32** permitting the ready passage of air over the exposed outer surface of the wooden element **16**.

The top closing means **8** is essentially similar to the bottom closing means **14** as here disclosed, and comprises a wooden element **16'** corresponding to the previously

described element 16 but of a size corresponding to the size of the top opening 4 of the bottle. It is held in place by means of a ring-like cap 18' which, like the cap 18, is provided with an internally threaded rim flange 20' engageable with the external threads 6 at the neck of the body 2, and is further provided with a radially inwardly extending ring-like shelf 22' which presses the wooden element 16' against the upper edge of the body 2 and which is provided with a central opening 24' to expose a substantial portion of the area of the outer surface of the element 16'. In order to ensure that the aging process will take place even if the bottle should be retained in inverted condition for an appreciable period of time, the cap 18' is provided with upward protrusions 30' separated by spaces 32', so that the inverted bottle will be supported in such a way that air may circulate over the exposed outer surface of the wooden element 16'.

The cap 18 at the bottom of the bottle is in a form suitable for production by die casting or a similar process. The cap 18' at the top of the bottle is formed of sheet metal, and its protrusions or legs 30' are formed integrally therewith from material which defined the top of the cap before the opening 24' was formed. It will be understood that these two specific constructions could be interchanged, that either one could be employed both at the top and the bottom of the bottle, and that the two specifically illustrated embodiments are but exemplary of a large number of comparable constructions which would provide for securing the wooden element 16 or 16' in place, exposing its outer surface, and raising it above the member on which the container is supported while at the same time providing for ventilation across its exposed outer surface.

With the container in upright condition the aging wood of the element 16 will be in contact with the contents of the bottle, the porosity of the wood is rendered effective by means of the provision of ventilation across its exposed outer surface, and consequently aging will take place even though the bulk of the bottle is formed of glass. In this regard it may be noted that the degree of aging will not be inferior to, and may well exceed, the aging which occurs in the large vats or barrels now employed for that purpose, since the ratio of wood area contacted by the liquor to the total volume of the liquor in a bottle of the type here disclosed will probably exceed the comparable ratio in the case of the large wooden barrels conventionally employed.

The end closure at the bottom of the body 2 may be the only one with the aging feature, but in that event aging will not take place when the bottle is stored in inverted condition, since there would then be no contact between the liquor contents and the wooden element 16. When, as is here specifically disclosed, aging closures are provided at the top as well as at the bottom of the bottle two advantageous results ensue. In the first place aging will continue (although perhaps to a reduced degree, depending upon the relative sizes of the top and bottom openings 4 and 10 respectively) even if the bottle is supported in inverted, neck-down position, as may well occur during the normal handling of a case of bottles. In the second place, if the bottles are supported in an inclined position so that the liquor will make simultaneous contact with both of the wooden elements 16 and 16', aging will proceed more rapidly and effectively since the area of aging wood contacted by the liquor will be greater than if the bottle is vertical. Moreover, it is believed that the provision of opposed and simultaneously active wooden elements 16 and 16' will produce a quite slow but chemically effective circulation of the liquor within the bottle, thus permitting more uniform and effective aging of the liquor contents. Making the top openings 4 somewhat larger than is customary will, of course, intensify the aging effect when the liquor contents touch the wooden element 16'.

While but a single embodiment of the present invention has been here disclosed, and while but two embodiments of the end closure structures have been shown, it will be apparent that many variations will be made therein, all within the scope of the invention as defined in the following claims.

I claim:

1. A spirits-aging container comprising an open-ended body impervious to air, and means engageable with said body for closing said open end, said means comprising a wooden element at least a portion of the inner surface of which is exposed to the interior of said body and at least a portion of the outer surface of which is exposed at the exterior of said means, and supporting members operatively connected to said body and extending away from said body beyond the outer surface of said wooden element, said supporting members having spaces therebetween, whereby said container may rest on said supporting members and air may circulate through said spaces and over the exposed outer surface of said wooden element.

2. A spirits-aging container comprising an open-ended body impervious to air, a wooden element seated on and closing the open end of said body, means for securing said element to said body, said means exposing at least a portion of the outer surface of said wooden element, and supporting members operatively connected to said body and extending away from said body substantially in the direction of the length of said body beyond said wooden element, said members having spaces therebetween, whereby said container may rest on said supporting members and air may circulate through said spaces and over the exposed outer surface of said wooden element.

3. A spirits-aging container comprising an open-ended body impervious to air, a wooden element seated on the outside of and closing the open end of said body, said body having a threaded outer surface adjacent its open end, a ring threadedly received on said body outer surface and engaging said wooden element to hold the latter against the open end of said body, said ring having an opening exposing at least a portion of the outer surface of said wooden element, said ring having circumferentially spaced feet extending therefrom beyond said wooden element substantially in the direction of the length of said body, whereby said container may rest on said feet and air may circulate between said feet and over the exposed outer surface of said wooden element.

4. A spirits-aging container comprising an open-ended body impervious to air, a wooden element seated on the outside of and closing the open end of said body, said body having a threaded outer surface adjacent its open end, a ring threadedly received on said body outer surface and engaging said wooden element to hold the latter against the open end of said body, said ring having an opening exposing at least a portion of the outer surface of said wooden element, said ring having a flange extending beyond said wooden element substantially in the direction of the length of said body, said flange having openings beyond said wooden element, whereby said container may rest on said flange and air may circulate through said openings and over the exposed outer surface of said wooden element.

5. A spirits-aging container comprising a body impervious to air and open at both ends, and means releasably engageable with each end of said body for closing that end, each of said means comprising a wooden element at least a portion of the inner surface of which is exposed to the interior of said body and at least a portion of the outer surface of which is exposed at the exterior of the means associated therewith, and supporting members operatively connected to said body and extending oppositely away from said body beyond the outer surfaces of the wooden elements respectively associated therewith, said supporting members having spaces therethrough beyond the respective wooden element, whereby

said container may rest on one or the other of said supporting members and air may circulate through said spaces and over the exposed outer surface of the lowermost of said wooden elements.

6. A spirits-aging container comprising a body impervious to air and open at both ends, a pair of wooden elements each seated on and closing one one of the ends of said body, means for securing said wooden elements to said body, said means exposing at least a portion of the outer surfaces of said wooden elements, and supporting members operatively connected to said body and extending oppositely away from said body beyond said wooden elements substantially in the direction of the length of said body, said members having spaces therethrough and beyond the respective wooden elements, whereby said container may rest on one of said supporting members so that air may circulate through said spaces and over the exposed outer surface of the lowermost of said wooden elements.

7. A spirits-aging container comprising a body impervious to air and open at both ends, a pair of wooden elements each seated on and closing one of the ends of said body, said body having threaded outer surfaces adjacent its open ends, rings threadedly received respectively on said body outer surfaces and engaging said wooden elements respectively to hold them against the corresponding open ends of said body, said rings each having an opening exposing at least a portion of the outer surface of the wooden element engaged thereby, said rings having sets of circumferentially spaced

feet oppositely extending therefrom beyond their respective wooden elements substantially in the direction of the length of said body, whereby said container may rest on one of said sets of feet and air may circulate between said feet and over the exposed outer surface of the corresponding wooden element.

8. A spirits-aging container comprising a body impervious to air and open at both ends, a pair of wooden elements each seated on and closing one of the ends of said body, said body having threaded outer surfaces adjacent its open ends, rings threadedly received respectively on said body outer surfaces and engaging said wooden elements respectively to hold them against the corresponding ends of said body, said rings each having an opening exposing at least a portion of the outer surface of the wooden element engaged thereby, each of said rings having a flange extending beyond said wooden element substantially in the direction of the length of said body, the flanges of said rings extending in opposite directions relative to one another, said flanges having openings beyond their respective wooden elements, whereby said container may rest on one of said flanges and air may circulate through said openings and over the exposed outer surface of the corresponding wooden element.

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