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METHOD AND APPARATUS FOR PRESERVING THE
CONTENTS OF PERVIOUS CONTAINERS
Filed Jan. 24, 1958

2,943,940

FIG. 1.

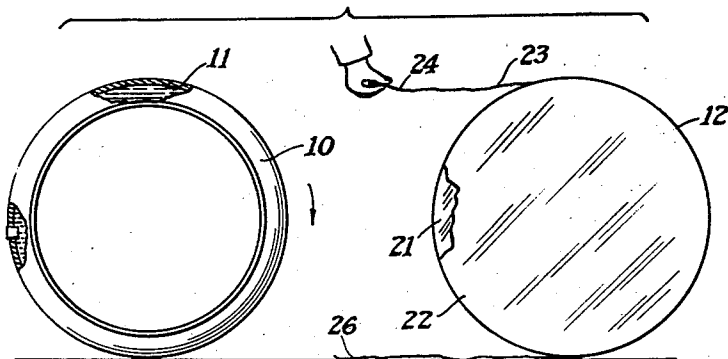


FIG. 7.

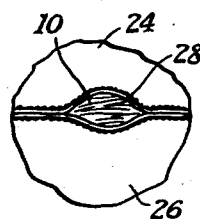


FIG. 3.

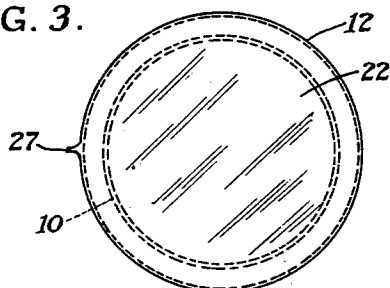


FIG. 2.

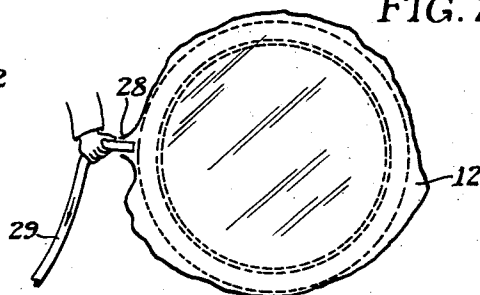


FIG. 4.

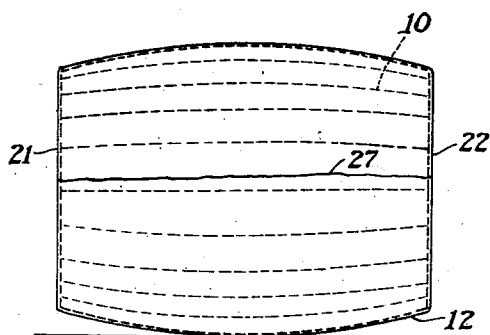


FIG. 5.

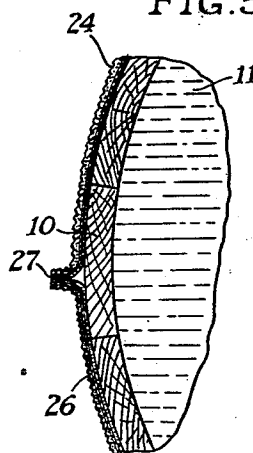
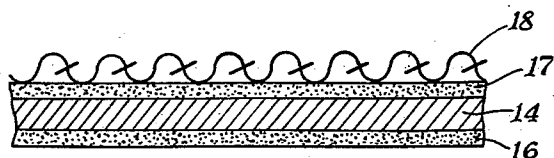


FIG. 6.



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METHOD AND APPARATUS FOR PRESERVING THE CONTENTS OF PERVIOUS CONTAINERS

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2 Claims. (Cl. 99—48)

This invention relates to a method and apparatus for preserving the contents of pervious containers.

Various materials, such as whiskey, and the like, are stored and aged in wooden containers or barrels which are not completely impervious to passage of fluids. In particular, in the aging of whiskey in an oak barrel, there is a substantial loss of whiskey through the walls of the barrel during the aging caused by passage of the whiskey through the walls of the barrel to be evaporated into the air surrounding the barrel. An object of this invention is to provide a method and apparatus for minimizing the loss of whiskey during aging in an oak barrel or the like.

It has been found that if the barrel is surrounded by an impervious layer of metal foil such as aluminum foil, loss through the walls of the barrel is substantially reduced, if not eliminated. However, aluminum foil itself is fragile and breaks readily. A further object of this invention is to provide a method and apparatus for enclosing a barrel inside a metal foil sheet, such as an aluminum foil sheet, which is reinforced to prevent ready rupture thereof.

For this purpose a sheet of aluminum foil is used which is reinforced with a coating of resin, such as vinyl resin, on each face thereof and with a fabric scrim or reinforcing attached to one of the faces by the resin to strengthen the sheet. The barrel is placed inside an envelope or bag of this type of material.

A further object of this invention is to draw such a bag tightly against the walls of the barrel so that there is substantially no space between the bag and the walls of the barrel to eliminate air around the barrel and to render the encased barrel easy to handle. This is done by evacuating the space between the bag and the barrel before the bag is sealed shut.

A further object of this invention is to prevent dirt and the like in the space in which the barrel is stored from reaching the outer walls of the barrel to insure that the contents do not become contaminated during aging.

The above and other objects and features of this invention will be apparent to those skilled in the art to which this invention pertains from the following detailed description, and the drawing, in which:

Figure 1 is a view in end elevation, partly broken away and in section, showing a barrel and a bag ready to receive the barrel;

Fig. 2 is a view in end elevation showing the bag surrounding the barrel and partly closed, a vacuum line being shown connected to the interior of the bag;

Fig. 3 is a view in end elevation showing the bag drawn against the walls of the barrel, the bag being sealed;

Fig. 4 is a view in front elevation of the bag with the barrel enclosed therein;

Fig. 5 is an enlarged fragmentary view in transverse section showing a portion of the wall of a barrel and a sealed joint between edges of fabric sections;

Fig. 6 is an enlarged view in transverse section of a portion of the material of which the bag or envelope is formed; and

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Fig. 7 is an enlarged fragmentary view in front elevation showing a portion of the envelope with an opening between portions of edges of the material thereof preparatory to the evacuating of the space between the barrel and the interior of the bag.

In the following detailed description, and the drawing, like reference characters indicate like parts.

In Fig. 1 is shown a barrel 10 of the type ordinarily used in aging whiskey. The interior of the barrel may be charred in the usual fashion. The barrel is filled with whiskey 11, so that only a minimum space remains in the barrel above the whiskey. A bag 12 is provided for receiving the barrel.

The bag 12 is prepared from sheet material of the type illustrated in Fig. 6. The material of which the bag is formed includes a sheet of aluminum foil 14. The faces of the aluminum foil sheet 14 are coated with a flexible resin, as indicated at 16 and 17, which may be vinyl resin, or the like. Thus, the aluminum foil sheet is a core between coatings of resin. A facing sheet or scrim 18 of fabric is attached to one face by the resin coating 17. The resin coating 16 on the other face protects the other face of the foil sheet 14 and provides a heat sealing coating for attaching edges of the bag together. The bag includes end panels 21 and 22 and a side panel 23 having end portions 24 and 26 which extend outwardly thereof. The bag is constructed with the fabric face of the material on the outside.

The barrel 10 is rolled into the bag 12 as indicated in Fig. 1 and the end portions 24 and 26 are drawn together. The edges of the end panels 21 and 22 are sealed to end portions 24 and 26, and adjacent edges of the end portions are sealed together by heating the adjoining edges to a temperature at which the resin of the edges adheres. The heating may be done with a heating iron or the like (not shown). In Fig. 5 the form of one of the heat-sealed joints 27 is shown. As indicated, the adjacent edges are bent away from the barrel and the fabric-free faces are brought into engagement and sealed together.

At this stage the bag is sealed shut except for a small opening 28 (Fig. 7). A suction line 29 is connected to the opening, and suction from an appropriate vacuum pump, such as a conventional vacuum cleaner (not shown), is impressed on the suction line to draw air from the space between the barrel and the interior of the bag to cause the bag to collapse from the Fig. 2 position to the Fig. 3 position in which the bag tightly engages the exterior of the barrel. The suction line is then removed, and the edges of the opening are sealed to close the opening and complete the seal surrounding the barrel. The barrel can then be numbered, and the location of the bung can be marked on the outside of the bag or envelope surrounding the barrel.

The encased barrel is then moved to a storage room where the barrel of whiskey is stored until the whiskey in the barrel has aged sufficiently. The envelope prevents ambient air in the storage room from reaching the walls of the barrel, minimizes the passage of contents of the barrel outwardly through the walls of the barrel, and prevents any dirt or the like in the storage room from reaching the walls of the barrel. The impervious sheet or envelope surrounding the barrel thus minimizes the passage of fluids through the walls of the barrel so that the loss which ordinarily would occur during aging, is minimized or substantially eliminated. In addition, the envelope serves to make readily apparent any leaks which may develop in barrels because the envelope retains any liquid which may leak from the barrel, and renders such leakage readily apparent.

The apparatus illustrated in the drawing and described above is subject to structural modification without departing from the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A method of aging whiskey which comprises storing the whiskey in a wooden barrel, surrounding the barrel with an envelope of sheet material having an aluminum foil core and resin coating on the faces of the foil, withdrawing air from the space between the barrel and envelope to collapse the envelope against the container, the resin of the coating of at least one face being heat-sealable, and heat-sealing the envelope.

2. In combination a closed wooden container filled with whiskey and an envelope surrounding the container, the envelope having a core of aluminum foil and coatings of heat sealable resin on the faces thereof, the envelope

being collapsed against the outside of the container, the envelope being sealed to prevent exposure of the walls of the container to ambient air.

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