

SPECIFICATION

Improvements in or relating to an insulating vessel

- 5 This invention relates to an insulating vessel and more particularly to an insulating vessel for a bottle such as, for example, a wine bottle.
Many types of wine should be served and retained at a temperature below normal room temperature if
10 the wine is to be fully appreciated. Whilst bottles of such wine are often chilled prior to opening, the bottles are then for example during the course of a meal, placed on a table and in a relatively short time the temperature of the wine will increase to a
15 temperature close to the ambient temperature of the room. Thus, whilst the wine may initially be at the optimum temperature, wine subsequently poured from the bottle could be much warmer and could consequently not be fully appreciated.
20 This invention seeks to provide an insulating vessel for retarding the exchange of heat between the atmosphere surrounding the vessel and an item, such as a bottle, stored in the vessel.
According to one aspect of this invention there is
25 provided an insulating vessel for a wine bottle, comprising: an outer jacket comprising a bottom member and a cylindrical sleeve portion, the bottom member including a circular bottom wall and an upstanding cylindrical side wall, said bottom wall
30 having an upstanding annular boss provided thereon, and said cylindrical sleeve portion being disposed atop said upstanding side wall means of said outer jacket bottom member and provided at the upper end thereof with radially inwardly projecting
35 flange means; and a container member disposed internally of said outer jacket and comprising a bottom wall having a depending projection for engaging said outer jacket bottom wall annular boss, and a continuous upstanding cylindrical side
40 wall means defining a cavity therewithin so as to receive therein a wine bottle, the upper end of said container side wall means being provided with a radially outwardly projecting annular flange for engaging said flange means of said outer jacket
45 sleeve portion whereby said projection and boss means, and said engaging flange means, of said container and jacket serve to support said container member within said outer jacket in a spaced relationship, said outer jacket sleeve portion and said
50 container member being fabricated of transparent material so as to enable substantially the entire height extent of said wine bottle disposed within said container cavity to be seen within said container
55 vessel.
Conveniently, the space defined between the container member and the outer jacket is sealed from the atmosphere and contains air, or is partially evacuated.
60 In order that the invention may be more readily understood and so that further features thereof may be appreciated the invention will now be described by way of example and with reference to the accompanying drawings in which:
65 Figure 1 is a perspective view of an insulating

vessel in accordance with the invention which contains a wine bottle;

Figure 2 is a vertical sectional view of the vessel of Figure 1, with the bottle removed; and

- 70 Figure 3 is an enlarged vertical section of part of the vessel of Figure 2.

Referring to Figure 1, this embodiment of an insulating vessel is suitable for a bottle of wine and comprises a container member 1 and an outer jacket
75 comprising a bottom portion 2 and a sleeve portion 3.

- Referring to Figure 2, the container member 1 comprises a circular bottom wall 4 having a central circular downwardly extending projection 5 formed therein. An integral continuous side wall 6 extends
80 upwardly and is flared slightly outwardly from the periphery of the base wall 4 and defines at its upper extremity a circular aperture 7. The upper extremity of the to position the container member and the
85 outer jacket in a predetermined relative position.

Suitably, the flanges co-operate with another to seal the space defined between the container member and outer jacket from the atmosphere.

- Advantageously, the bottom wall of the container
90 member is provided with a projection which engages the side wall 6 is provided with a peripheral outwardly protruding flange 8 of inverted "L" shaped cross-section.

- The bottom portion 2 of the outer jacket comprises
95 a circular bottom wall 9 of greater diameter than the bottom wall 4 of the container member. The bottom wall 9 of the outer jacket is provided with a central ring-like retaining wall 10 of an internal diameter slightly greater than the external diameter of the
100 circular projection 5 of the container member. An upwardly and slightly outwardly extending integral side wall 11 extends from the periphery of the bottom wall 9 for a short distance and is provided at its upper extremity with a generally circular inwardly
105 stepped inner edge portion 12. A peripheral downwardly extending bead 13 is provided beneath the base wall 9 of the bottom portion 2.

- The sleeve portion 3 of the outer jacket comprises a side wall 14 of generally tubular configuration
110 which extends upwardly and is flared slightly inwardly from a lower generally circular inwardly stepped outer edge portion 15, which is adapted to co-operate with the inner edge portion 12 of the bottom portion 2 to enable the connection of the
115 sleeve portion 3 to the bottom portion 2. The side wall 14 of the sleeve portion 3 terminates at an inwardly extending generally circular flange 16 which defines two steps 16a, 16b.

- The insulating vessel is assembled by lowering the
120 sleeve portion 3 onto the bottom portion 2 so that the outer edge portion 15 of the sleeve portion 3 engages with the inner edge 12 of the bottom portion 2. The edge portions 15, 12 co-operate to hold the elements of the outer jacket in position
125 relative to one another and if a permanent connection is desired adhesive may be used or the edge portions 15, 12 may be sealingly welded to one another in an appropriate manner.

- The assembly of the vessel is completed by
130 lowering the container member 1 into an outer

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jacket until the projection 5 is positioned within the ring-like retaining wall 10 and touches the bottom wall 9 of the bottom portion 2 of the outer jacket. As shown in Figure 3, when the container member is in this position the flange 8 engages the flange 16 of the outer jacket, the outermost part of the flange 8 being located against the step 16a in such a way that a first annular groove 17a is defined between the step 16b of the flange 16 and the flange 8 and a second annular groove 17b is defined between the lowermost part of the flange 16 and the lowermost part of the flange 8. Adhesives may be used to secure the flanges together and if desired additional adhesive may be used at the interface between the recessed portion 5 and the bottom wall 9 of the outer jacket. Again, alternatively, the container member and the outer jacket may be secured by welding or any other suitable means.

The component parts of the insulating vessel are moulded from plastics material, the container member 1 and the sleeve portion 3 being formed of a clear plastics material and the bottom portion 2 being formed of an opaque or coloured plastics material. The material of the insulating vessel is itself a heat insulating material and in addition the assembled components of the vessel define a closed space which serves further to insulate the interior of the container member from the exterior of the vessel. The closed space may contain air or may be partially evacuated if desired.

In Figure 1 the vessel is shown in use. A bottle of wine which has been cooled below room temperature is placed within the container member of the insulating vessel and the insulating vessel is then, for example, placed on a table so that wine may be poured from the bottle as and when desired. The insulating vessel serves to insulate the bottle and its contents from the atmosphere and thus to maintain the wine in a chilled condition.

To facilitate the insulating of a bottle of wine, the insulating vessel is dimensioned in accordance with standard wine bottle sizes. It will be appreciated that there are a number of standard wine bottle sizes and consequently insulating vessels of various corresponding sizes may be manufactured. It has, however, been found that a significant spacing between the inner wall of the container member and a bottle stored in the vessel can be tolerated without significantly reducing the insulating effectiveness of the vessel and thus it would be possible to provide a single insulating vessel for use with a variety of standard wine bottle sizes.

The rate of increase of temperature of wine in a bottle when contained in the preferred embodiment of an insulating vessel in accordance with the invention has been measured. This measured value has been compared with the rate of increase of temperature of wine in an uninsulated bottle. It has been discovered that over a significant period of time the insulating vessel maintained the wine at a reasonable temperature whereas the uninsulated wine relatively quickly warmed to a temperature close to room temperature.

The results of one such test are given below. In this test two bottles of initially chilled Hock wine

were tested, the temperature of the wine in each bottle being taken at 15 minute intervals, the ambient temperature of the surroundings being a constant 21°C and one glass of wine being poured from each bottle following each temperature reading.

minutes	temperature in insulated bottle	temperature of wine in uninsulated bottle
0	4.5°C	4.5°C
15	5°C	7°C
30	5.25°C	10°C
45	5.5°C	12°C
60	6.5°C	14°C
75	10°C	18°C

As will be apparent from the above results, after an hour and a quarter the remaining wine in the uninsulated bottle has reached a temperature close to room temperature whilst the remaining wine in the insulated bottle is still relatively cool.

CLAIMS

1. An insulating vessel for a wine bottle, comprising: an outer jacket comprising a bottom member including a circular bottom wall and an upstanding cylindrical side wall, said bottom wall having an upstanding annular boss provided thereon, and said cylindrical sleeve portion being disposed atop said upstanding side wall means of said outer jacket bottom member and provided at the upper end thereof with radially inwardly projecting flange means; and a container member disposed internally of said outer jacket and comprising a bottom wall having a depending projection for engagement said outer jacket bottom wall annular boss, and a continuous upstanding cylindrical side wall means defining a cavity therewithin so as to receive therein a wine bottle, the upper end of said container side wall means being provided with a radially outwardly projecting annular flange for engaging said flange means of said outer jacket sleeve portion whereby said projection and boss means, and said engaging flange means, of said container and jacket serve to support said container member within said outer jacket in a spaced relationship, said outer jacket sleeve portion and said container member being fabricated of transparent material so as to enable substantially the entire height extent of said wine bottle disposed within said container cavity to be seen within said container cavity from a reference point outside said insulating vessel.

2. An insulating vessel according to claim 1, wherein the space defined between the container member and the outer jacket is sealed from the atmosphere.

3. An insulating vessel according to claim 1 or 2 wherein the space defined between the container member and the outer jacket contains air.

4. An insulating vessel according to claim 1 or 2, wherein the space defined between the container member and the outer jacket is partially evacuated.

5. An insulating vessel according to any one of claims 1 to 4, wherein the upstanding cylindrical side



jacket until the projection 5 is positioned within the ring-like retaining wall 10 and touches the bottom wall 9 of the bottom portion 2 of the outer jacket. As shown in Figure 3, when the container member is in this position the flange 8 engages the flange 16 of the outer jacket, the outermost part of the flange 8 being located against the step 16a in such a way that a first annular groove 17a is defined between the step 16b of the flange 16 and the flange 8 and a second annular groove 17b is defined between the lowermost part of the flange 16 and the lowermost part of the flange 8. Adhesives may be used to secure the flanges together and if desired additional adhesive may be used at the interface between the recessed portion 5 and the bottom wall 9 of the outer jacket. Again, alternatively, the container member and the outer jacket may be secured by welding or any other suitable means.

The component parts of the insulating vessel are moulded from plastics material, the container member 1 and the sleeve portion 3 being formed of a clear plastics material and the bottom portion 2 being formed of an opaque or coloured plastics material. The material of the insulating vessel is itself a heat insulating material and in addition the assembled components of the vessel define a closed space which serves further to insulate the interior of the container member from the exterior of the vessel. The closed space may contain air or may be partially evacuated if desired.

In Figure 1 the vessel is shown in use. A bottle of wine which has been cooled below room temperature is placed within the container member of the insulating vessel and the insulating vessel is then, for example, placed on a table so that wine may be poured from the bottle as and when desired. The insulating vessel serves to insulate the bottle and its contents from the atmosphere and thus to maintain the wine in a chilled condition.

To facilitate the insulating of a bottle of wine, the insulating vessel is dimensioned in accordance with standard wine bottle sizes. It will be appreciated that there are a number of standard wine bottle sizes and consequently insulating vessels of various corresponding sizes may be manufactured. It has, however, been found that a significant spacing between the inner wall of the container member and a bottle stored in the vessel can be tolerated without significantly reducing the insulating effectiveness of the vessel and thus it would be possible to provide a single insulating vessel for use with a variety of standard wine bottle sizes.

The rate of increase of temperature of wine in a bottle when contained in the preferred embodiment of an insulating vessel in accordance with the invention has been measured. This measured value has been compared with the rate of increase of temperature of wine in an uninsulated bottle. It has been discovered that over a significant period of time the insulating vessel maintained the wine at a reasonable temperature whereas the uninsulated wine relatively quickly warmed to a temperature close to room temperature.

The results of one such test are given below. In this test two bottles of initially chilled Hock wine

were tested, the temperature of the wine in each bottle being taken at 15 minute intervals, the ambient temperature of the surroundings being a constant 21°C and one glass of wine being poured 70 from each bottle following each temperature reading.

minutes	temperature in insulated bottle	temperature of wine in uninsulated bottle
0	4.5°C	4.5°C
15	5°C	7°C
30	5.25°C	10°C
45	5.5°C	12°C
60	6.5°C	14°C
75	10°C	18°C

As will be apparent from the above results, after an hour and a quarter the remaining wine in the uninsulated bottle has reached a temperature close 75 to room temperature whilst the remaining wine in the insulated bottle is still relatively cool.

CLAIMS

1. An insulating vessel for a wine bottle, comprising: an outer jacket comprising a bottom member 80 and a cylindrical sleeve portion, the bottom member including a circular bottom wall and an upstanding cylindrical side wall, said bottom wall having an upstanding annular boss provided thereon, and said cylindrical sleeve portion being disposed atop said 85 upstanding side wall means of said outer jacket bottom member and provided at the upper end thereof with radially inwardly projecting flange means; and a container member disposed internally of said outer jacket and comprising a bottom wall 90 having a depending projection for engagement said outer jacket bottom wall annular boss, and a continuous upstanding cylindrical side wall means defining a cavity therewithin so as to receive therein a wine bottle, the upper end of said container side 95 wall means being provided with a radially outwardly projecting annular flange for engaging said flange means of said outer jacket sleeve portion whereby said projection and boss means, and said engaging flange means, of said container and jacket serve to 100 support said container member within said outer jacket in a spaced relationship, said outer jacket sleeve portion and said container member being fabricated of transparent material so as to enable substantially the entire height extent of said wine 105 bottle disposed within said container cavity to be seen within said container cavity from a reference point outside said insulating vessel.

2. An insulating vessel according to claim 1, wherein the space defined between the container 110 member and the outer jacket is sealed from the atmosphere.

3. An insulating vessel according to claim 1 or 2 wherein the space defined between the container member and the outer jacket contains air.

4. An insulating vessel according to claim 1 or 2, wherein the space defined between the container member and the outer jacket is partially evacuated.

5. An insulating vessel according to any one of claims 1 to 4, wherein the upstanding cylindrical side

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wall of the outer jacket bottom member is opaque.

6. An insulating vessel according to any one of the preceding claims, wherein the vessel defines solely one cavity to receive a single bottle.

5 7. An insulating vessel substantially as herein described with reference to, and as illustrated in the accompanying drawings.

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