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A BEVERAGE DISPENSER

TECHNICAL FIELD

The invention described herein relates to a system for dispensing beverages. In particular, the invention is directed to a system for dispensing beverages, particularly water, from a flexible bag, although the scope of the invention is not necessarily limited thereto.

BACKGROUND ART

Recent concerns regarding reducing the amount of packaging to be disposed in landfill has led to an increased interest in packaging products in collapsible containers. This is a particular issue for beverages, due to the popularity of bottled water. Whilst most bottles used for retailing water are recyclable and therefore should not contribute to landfill, they are bulky. The containers for home use, such as those with a capacity of 2 litres or more, intended for use in the home or workplace, are particularly bulky and thus readily fill recycle bins.

In an effort to overcome the problem of bulky waste, whether recyclable or not, some beverage manufacturers are now using flexible bags rather than rigid plastic containers. However, there are problems associated with dispensing fluids from flexible bags. In particular, the inherent flexibility of the bag, makes it difficult to dispense fluid from within the bag without spilling any of the fluid. This is particularly problematic for bags with a volume of greater than about 500 mL. For use in the home or work place, large volume containers for beverages, such as water, are more desirable than using copious quantities of small volume containers. Dispensing a drink from, for example, an 8 litre fridge pack of water, is exceedingly difficult. However, the reduction in bulk waste from an 8 litre fridge pack of water to a flexible bag containing 8 litres of water is significant, and therefore the goal of easy, no-spill dispensing from a flexible bag is desirable.

There have been a number of solutions devised in order to overcome the problem of dispensing fluids from flexible bags. A simple solution is to pour the fluid from the flexible bag into a rigid container, such as a jug, for subsequent dispensing. However, this is not a practical solution, particularly for large volumes of fluid (greater than 2 litres). Even for

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smaller volumes, this can be problematic, as it is difficult to pour fluid from a flexible bag into a rigid container without spilling any of the fluid.

Dispenser jugs, where a flexible bag containing fluid is placed within such a jug and then the bag is opened to allow for dispensing of the fluid directly from the bag within the jug are known. One particular example of such a jug is disclosed in GB 2467603. This document discloses a jug into which a flexible bag is placed and the lid of the jug incorporates a piercing member which upon closing the lid, pierces the bag, thus enabling the liquid from within the bag to be poured from the jug.

Whilst such dispensing jugs may be suitable for bags containing small volumes (2 litres or less), they are not a practical solution for large volume bags, such as those intended as fridge packs (greater than 2 litres). In addition, due to the weight of large volumes of fluid, it is preferable not to use a dispensing jug, as it is not only difficult to lift jugs containing large volumes, but it is also difficult to pour from such a heavy vessel.

An alternative to dispensing jugs that has been used for large volumes of fluid, is the 'bag-in-a-box'. These systems are well known in the area of wine and are marketed as boxed wine or cask wine. Such systems comprise a plastic bag incorporating a tap for dispensing the wine, with the bag being supported within a cardboard box. Access to the tap is through a hole in the lower portion of the cardboard box. Similar systems have been utilized for non-alcoholic beverages, however, the incorporation of the tap with the bag results in the addition of the tap to bulk waste.

It is an aim of the invention to provide a system for dispensing beverages which overcomes or ameliorates one or more of the disadvantages or problems described above, or which at least provides the consumer with a useful choice.

SUMMARY OF THE INVENTION

According to a first embodiment of the invention, there is provided a housing for a beverage bag, the housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that in use, on positioning a beverage bag containing fluid in the housing, a hole is formed in the beverage bag by the piercing

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member and the fluid within the beverage bag can be dispensed from the outlet means via the piercing member.

According to a second embodiment of the invention, there is provided a liquid dispensing system, the system comprising a housing for a beverage bag wherein the housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that in use, a hole is formed in the beverage bag by the piercing member and a beverage within the beverage bag is dispensed from the outlet means via the piercing member.

According to a third embodiment of the invention, there is provided a method for dispensing a fluid from a beverage bag, the method comprising positioning a beverage bag containing fluid in a housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that on positioning the beverage bag containing fluid in the housing, a hole is formed in the beverage bag by the piercing member and the fluid within the beverage bag is dispensed from the outlet means via the piercing member.

Referring to the above embodiments, the housing can be made from any suitable material which will provide support for a flexible bag. Preferably, the housing is made from plastic, such as high-density polyethylene (HDPE). In alternative embodiments, the housing can be made from an insulating material so that in the absence of refrigeration, the housing can keep the contents of a beverage within the housing cool.

The base and the at least one side wall can be separate components or they can be integrally formed. To ensure that the housing does not leak, it is preferable that the base and the at least one side wall are integrally formed. Preferably, the housing has four walls and forms a rectangular container for the beverage bag. It is particularly preferred that the housing is of such a size and shape that it can fit on a refrigerator shelf, thus providing easy access to a cooled beverage.

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The housing can additionally comprise a cover, such as a lid, to enclose the beverage bag completely within the housing. The cover can be a separate component of the housing which sits on top of the housing, or the cover can be secured to the housing. Where the cover is secured to the housing, this can be by any suitable means known in the art, such as hinge means. In a further alternative, the cover can be reversibly secured to the housing, so that the cover can be easily removed when necessary to clean the interior of the housing.

The piercing member of the housing is associated with the base of the housing. This ensures that the piercing member forms a hole in the beverage bag adjacent to the base of the housing and dispensing of the contents of the beverage bag is gravity-dependent. Piercing the beverage bag adjacent to the base of the housing also ensures that the entire contents of the beverage bag are dispensed. Complete emptying of the contents of the beverage bag may require that the piercing member is positioned within a depression in the base of the housing.

The piercing member is preferably a spike which is fitted into the base of the housing with a liquid-tight seal. As the piercing member is in fluid communication with the outlet means of the housing, it is preferable that the piercing member has at least one conduit to allow fluid from the beverage bag to flow through the piercing member to the outlet means. In a particularly preferred embodiment, the piercing member is a hollow tubular spike with a beveled or angled terminal end for piercing a beverage bag. Preferably, the piercing member is relatively short, and therefore does not extend significantly into the bag once pierced, to allow for complete draining of the beverage from the bag.

The outlet means can be any suitable structure which allows for the fluid within the beverage bag to be dispensed. The outlet means can therefore be a fluid-tight valve, such as a tap. The tap can be operated by any suitable means known in the art, including push-button or turn mechanism.

Preferably, the outlet means is positioned on an external surface of the housing adjacent to the base of the housing. Positioning the outlet means adjacent to the base of the housing ensures that the entire contents of the beverage bag are dispensed.

The beverage bag can be any suitable size or shape. Dependent on the volume of fluid, the beverage bag can be of a suitable size to contain a volume from 1 litre up to about

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12 litres. In a particularly preferred embodiment, the beverage bag is sized to contain about 11 litres.

The beverage bag can be made from any material known in the art suitable for fluid. As the beverage bag is to contain fluids suitable for human consumption, preferably the beverage bag is made from a food-grade plastic.

Preferably the piercing member pierces a hole in the beverage bag such that a fluid within the bag flows through a conduit to the outlet means for dispensing of the fluid. It is particularly preferable that the process of dispensing the fluid is airtight, so that during dispensing, no air enters the bag, thus maintaining the purity of the fluid remaining in the bag. Thus, it is particularly preferable that the piercing member pierces a hole in the beverage bag such that the beverage bag remains airtight. It is also particularly preferable that dispensing fluid from the beverage bag via the outlet means is an airtight process.

Where the processes of piercing and dispensing are airtight, consumers can be assured of the purity of the contents of the beverage bag, from the first serving through the entire dispensed content of the beverage bag. This is particularly important for large volume beverage bags whose contents may be dispensed over an extended period.

When the entire contents of the fluid within a beverage bag has been dispensed, the empty bag can be easily removed from the housing and discarded. The housing can be cleaned, if necessary, and a new beverage bag positioned within the housing.

In order that the invention may be more readily understood and put into practice, one or more preferred embodiments thereof will now be described, by way of example only, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a housing according to an embodiment of the current invention.

Figure 2 is a perspective view of the interior of a housing according to an embodiment of the current invention.

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Figure 3 is a perspective view of the base of a housing according to an embodiment of the current invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring firstly to Figure 1, there is shown a housing 10 according to an embodiment of the current invention. The housing comprises a base 12, four side walls 14 (of which only two are visible) and a lid 16. The housing is a rectangular prism and is suitable for containing and supporting a beverage bag so that fluid within the beverage bag can be easily dispensed.

The lid 16 is attached to a side wall of the housing 10 by hinges 18 and has a handle 20 so that the housing 10 is easy to carry, even when it contains a full beverage bag.

10 The interior of the housing 10 of an embodiment of the current invention can be seen in Figure 2. Features similar to those of the embodiment shown in Figure 1 are numbered similarly. Projecting from the base 12 of the housing 10 is a spike 22 with a conduit 24. Although not visible in this view, the conduit 24 is in fluid communication with the tap 26. When a beverage bag containing fluid is positioned in the housing 10, the spike 22 pierces the
15 beverage bag and the fluid from the beverage bag flows through the conduit 24 and can be dispensed by opening the tap 26.

In Figure 3, the exterior of the base 12 of the housing 10 of an embodiment of the current invention is shown. From this figure, the conduit 24 from the spike (on the interior of the housing 10) to the tap 26 can be seen.

20 It can thus be seen that the invention provides a reusable housing for dispensing liquids from a flexible bag. Use of the housing ensures easy, no-spill dispensing and reduces waste, as the only waste generated is the empty bag. Positioning of the piercing means at the base of the housing and the outlet means adjacent the base ensures that the contents of a beverage bag can be completely dispensed. The housing is portable, but is also sized to fit on
25 a refrigerator shelf for ease of use.

The term “comprise” and variants of the term such as “comprises” or “comprising” are used herein to denote the inclusion of a stated integer or stated integers but not to exclude any

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other integer or any other integers, unless in the context or usage an exclusive interpretation of the term is required.

Any reference to publications cited in this specification is not an admission that the disclosures constitute common general knowledge in Australia.

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CLAIMS

1. A housing for a beverage bag, the housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that in use, on
5 positioning a beverage bag containing fluid in the housing, a hole is formed in the beverage bag by the piercing member and the fluid within the beverage bag can be dispensed from the outlet means via the piercing member.
2. The housing of claim 1, wherein the base and at least one side wall are integrally formed.
- 10 3. The housing of claim 1 or claim 2, wherein the piercing member is fitted into the base of the housing with a liquid-tight seal.
4. The housing of any one of claims 1 to 3, wherein the outlet means is a fluid-tight valve.
5. The housing of claim 1, wherein the housing is made from an insulating material.
- 15 6. A liquid dispensing system, the system comprising a housing for a beverage bag wherein the housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that in use, a hole is formed in the beverage bag by the piercing member and a beverage within the beverage bag is dispensed from the
20 outlet means via the piercing member.
7. The liquid dispensing system of claim 6, wherein the base and at least one side wall of the housing are integrally formed.
8. The liquid dispensing system of claim 6 or claim 7, wherein the piercing member is fitted into the base of the housing with a liquid-tight seal.
- 25 9. The liquid dispensing system of any one of claims 6 to 8, wherein the outlet means is a fluid-tight valve.

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10. The liquid dispensing system of claim 6, wherein the housing is made from an insulating material.
11. A method for dispensing a fluid from a beverage bag, the method comprising positioning a beverage bag containing fluid in a housing comprising a base and at least one side wall for supporting the beverage bag, a piercing member associated with the base of the housing, and outlet means in fluid communication with the piercing member, such that on positioning the beverage bag containing fluid in the housing, a hole is formed in the beverage bag by the piercing member and the fluid within the beverage bag is dispensed from the outlet means via the piercing member.
- 10 12. The method of claim 11, wherein the base and at least one side wall of the housing are integrally formed.
13. The method of claim 11 or claim 12, wherein the piercing member is fitted into the base of the housing with a liquid-tight seal.
14. The method of any one of claims 11 to 13, wherein the outlet means is a fluid-tight valve.
- 15 15. The method of claim 11, wherein the housing is made from an insulating material.