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(71) Applicants:
- **UNILEVER PLC**
  London EC4P 4BQ (GB)
  Designated Contracting States:
  GB IE CY
- **UNILEVER N.V.**
  3013 AL Rotterdam (NL)
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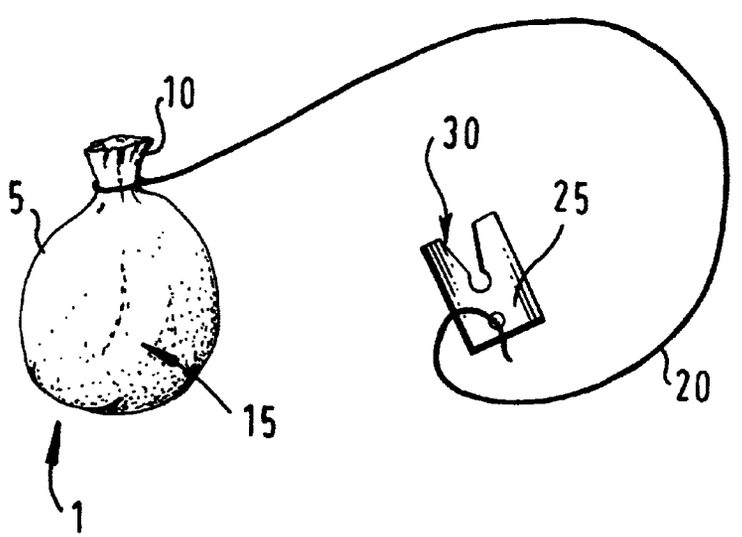
(72) Inventors:
- **Groenendijk, Petronella Margaretha**
  3133 AT Vlaardingen (NL)
- **Haak, Robert Hendrikus Agatha**
  3133 AT Vlaardingen (NL)
- **Rea, Dario**
  40010 Crespellano, Bologna (IT)

(74) Representative: **Butler, David John**
Unilever PLC
Patent Division
Colworth House
Sharnbrook
Bedford MK44 1LQ (GB)

(54) Improvements in or relating to infusion packages

(57) An infusion package comprising a pouch (5) of porous material that is gathered together at its neck (10) to contain an infusible substance (15), a string (20) that is attached to the neck, and a tag (25) that is attached to the free end of the string, the package being characterised in that when the string is wound around the neck of the pouch it remains wound by virtue of a yolk portion (30) in the tag that can receive the neck.

Fig.1



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Description

Field of the Invention

The present invention relates to infusion packages, or more specifically tea balls that have a string and tag.

Background

In AD 780 Lu Yu wrote in his "Book on Tea" that tea could be brewed between two sheets of paper but the invention of the tea bag as we know it is more commonly attributed to an American, Mr Sullivan, at the beginning of this century. He is said to have distributed small samples of his tea in tiny silk sacks which he later found customers were simply placing in a tea pot and using unopened.

Tea bags have been made as pouches or tea balls. Examples of these are disclosed in US patent specifications US 1,672,518; US 1,775,347; US 2,115,122; US 2,146,096; CH 165,348 and EP 686,574. They all have strings and tags to provide convenient and hopefully mess-free handling.

Nowadays heat-sealable filter paper is commonly used for making planar single chambered or more complex double chambered infusion bags at high speeds and volumes. Strings and tags are common as machines for making planar infusion packages have been developed to add them to or make them with the bags.

However the amount of solids extracted from an infusible material is directly proportional to the surface to volume ratio of the infusible material and the infusing liquid. That means the most efficient shape for an infusion package is of equal width in all three dimensions, ie spherical. When standard rectangular tea bags are immersed in hot or cold, they tend to swell a little but their construction prevents them from even approximating a spherical shape. Indeed infusible material is substantially restricted to circulating in two dimensions.

The tea ball design therefore retains an advantage for the consumer. They have their place but they difficult to make at the high speeds required to be economic today. Attaching the tags and transporting, collating and packing the completed bags is a difficult task as the strings and tags need to be controlled.

Storing tea balls that have strings and tags can also create problems as the strings and tags inevitably intertwine and form knots. This means the purchaser can be greeted by an infuriating and unsightly mess of tangled strings, tags and bags.

In spite of the above problems tea balls are still available today, although usually as up-market products that contain a particularly high quality tea. The price of such products reflects that and the generally much slower method of manufacture.

We have however developed an infusion package in the tea ball style with a string and tag that avoids or at least alleviates the problems concerned with controlling the strings by providing the tag with a yolk portion which when the string has been wound around the neck of the pouch enables the tag to be clipped to the neck of the pouch and keep the string in place.

The tag of the tea ball described in the aforementioned US 1,672,518 has a tag that includes a yolk portion for clipping the tag to the bag, however there is no teaching or suggestion that the string should be wound around the neck of the tea ball. A loop of string remains thus constituting only a partial solution to the problem of tangling.

Statement of the Invention

The present invention may in broad terms be said to be an infusion package comprising a pouch of porous material that is gathered together at its neck to contain an infusible substance, a string that is attached to the neck, and a tag that is attached to the free end of the string, the package being characterised in that when the string is wound around the neck of the pouch it remains wound by virtue of a yolk portion in the tag that can receive the neck.

The infusion package may optionally include means for securing the pouch in a closed state and the string can be passed through the closure means as it is looped around the periphery of the package so that when the ends of the string are pulled in opposite directions the looped portion of the string causes any excess liquid contained in the package to be expressed.

Detailed Description of the Invention

The infusion package of the present invention will now be described with reference to the following schematic drawings wherein:

Figure 1 shows an infusion package of the invention with the string in an unwound state.

Figure 2 shows the same infusion package shown of Figure 1 but with the string neatly wound around the neck of the pouch and the tag clipped in place to keep it that way.

Figure 3 shows a squeezable version of the infusion package of the invention prior to use.

Figure 4 shows the same infusion package shown in Figure 3 but in a used state.

Referring to Figure 1 there is provided an infusion package 1 that comprises a pouch 5 that is made of porous material that has been gathered together at its neck 10 to contain an infusible substance 15, a string 20 that is attached to the neck, and a tag 25 that is attached to the free end of the string.

Being substantially spherical the infusion package maximises the extraction of infusible solids from the infusible substance that is contained in the package.

The tag 25 has a yolk portion 30 that is shaped to receive the neck 10 of the pouch 5. The tag can be made of tough paper, cardboard, plastic, or indeed any mate-

rial that is suitable for the purpose. The yolk portion shown in the Figures is rounded but it need only be shaped in a manner that allows the tag to be clipped to the neck of the pouch.

The porous material can be any material that is suitable for enabling water to infuse within the pouch without allowing any solid contents to leave the pouch, for example filter paper, nylon mesh, gauze, muslin or some other similar material or fabric.

The pouch is preferably formed from a substantially square or circular piece of porous material.

The infusible substance 15 can be any suitable infusible substance or mixture of infusible substances, preferably being suitable for preparing a beverage. That could be coffee, cocoa, or herbs but for present purposes the infusible substance is tea which is intended to include black, green, oolong, rooibos, mate or any other variety or product of a tea plant. It might also be desirable to include some instant tea or coffee, milk powder, sweetener or flavouring.

When the infusible substance is tea the preferred porous material is muslin as that allows consumers to readily see, touch and smell the contents of the bag but also affords an appropriate material to encourage and not hinder infusion.

Strings are often attached to known tea balls by a staple or other metal clip. Some consumers find that undesirable as they perceive that metal ions may dissolve into the infusion. It can also represent a significant material cost to the manufacturer. Strings are often attached to the tags of known tea balls, or indeed other infusion packages, by a staple or other metal clip, with the same disadvantages. In the infusion package of the present invention these problems are preferably avoided, or at least alleviated, by knotting the string to the bag and gluing the other end of the string to the tag. Suitable methods and materials are known in the art.

The string 20 should be wound around the neck of the pouch and the tag clipped to the neck to keep the string in place. That can be accomplished by any suitable art-known means.

Like most tea bag designs, used tea balls generally contain a significant volume of liquid. This can be aesthetically unpleasant and create a real risk that as the tea ball is removed from the cup for disposal some of the liquid remaining in the tea ball will drip onto and even stain the user's clothing or the table linen. For these reasons it is fortunate that the infusion package of the present invention can readily be adapted to take on a squeezable form. Such a bag is illustrated in Figures 3 and 4.

Referring to Figure 3 there is provided an infusion package or bag 1 that comprises a pouch 5 that is made of porous material that has been gathered together at its neck 10 and contains an infusible substance (not shown). The pouch 5 is kept closed by closure means 15. As before, the package also has a string 20 and a tag 25.

The closure means 15 can simply be something that keeps the pouch closed. It may for example take the form of a ring or collar, be that of a metal or a plastics material, or some other fastening device such as a staple or clip. However some consumers find metal fasteners to be undesirable as they perceive that metal ions may dissolve into the infusion. It can also represent a significant material cost to the manufacturer. Plastic fasteners may be perceived as "cheap and nasty" and a possible source of contaminating chemicals. For these reasons in a preferred embodiment of the infusion package of the invention the closure means is formed from a knotted portion of cotton, thread or other suitable string material. The thread is preferably wound around the neck 10 of the bag a few times before being knotted so that it will withstand the stresses that may be exerted on the bag.

The string 20 passes through the closure means 15 as it loops around the periphery of the package so that when the ends of the string are pulled in opposite directions the looped portion of the string will express any excess liquid contained therein.

This squeezing action is made easier if both ends of the string 20 are secured to a tag 25. In the preferred embodiment shown in Figures 3 and 4 the tag 25 comprises two tag portions 25a and 25b. One end of the string 20 is attached by some suitable means to tag portion 25a and the other end of the string 20 is attached by some suitable means to tag portion 25b. The tag portions 25a and 25b are separable by tearing along a line of perforations 30.

One skilled in the art would appreciate a number of variations would be possible. For example both ends of the string 20 could be attached to a unitary tag and the bag 1 could be squeezed by holding the neck 10 of the bag 1 in the hand and using the tag to pull both ends of the string away from the bag. The closure means might take the form of a disc and the pouch 5 could be squeezed against it as the ends of the string are pulled away from the neck be that in the same or in opposite directions. One might even attach one end of the string to the closure means and squeeze the bag by pulling the other end of the string.

Claims

1. An infusion package comprising a pouch of porous material that is gathered together at its neck to contain an infusible substance, a string that is attached to the neck, and a tag that is attached to the free end of the string, the package being characterised in that when the string is wound around the neck of the pouch it remains wound by virtue of a yolk portion in the tag that can receive the neck.

2. An infusion package according to claim 1 which includes means for securing the pouch in a closed

state.

3. An infusion package according to claim 2 wherein the string passes through the closure means as it is looped around the periphery of the package so that when the ends of the string are pulled in opposite directions the looped portion of the string causes any excess liquid contained in the package to be expressed.

4. An infusion package according to claim 2 wherein the closure means is a staple or clip.

5. An infusion package according to claim 2 wherein the closure means is a portion of knotted thread.

6. An infusion package according to claim 3 wherein both ends of the string are attached to a single tag that can be split to form two separate tags.

7. An infusion package according to any preceding claim wherein the infusible substance is tea.

Fig.1

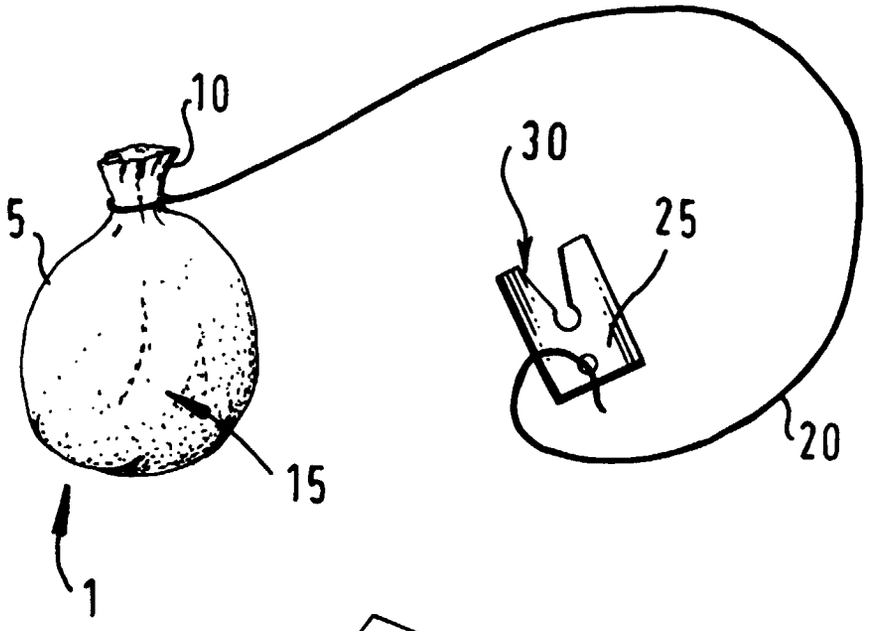


Fig.2

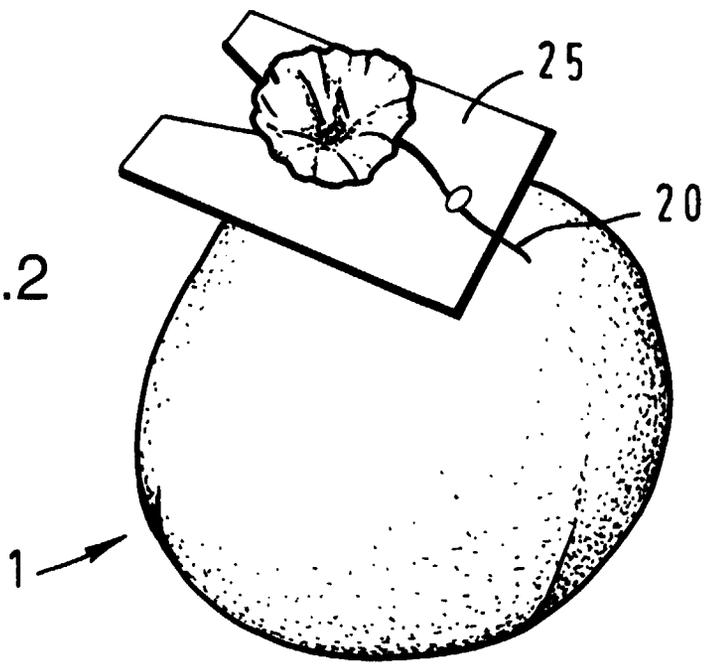


Fig.3.

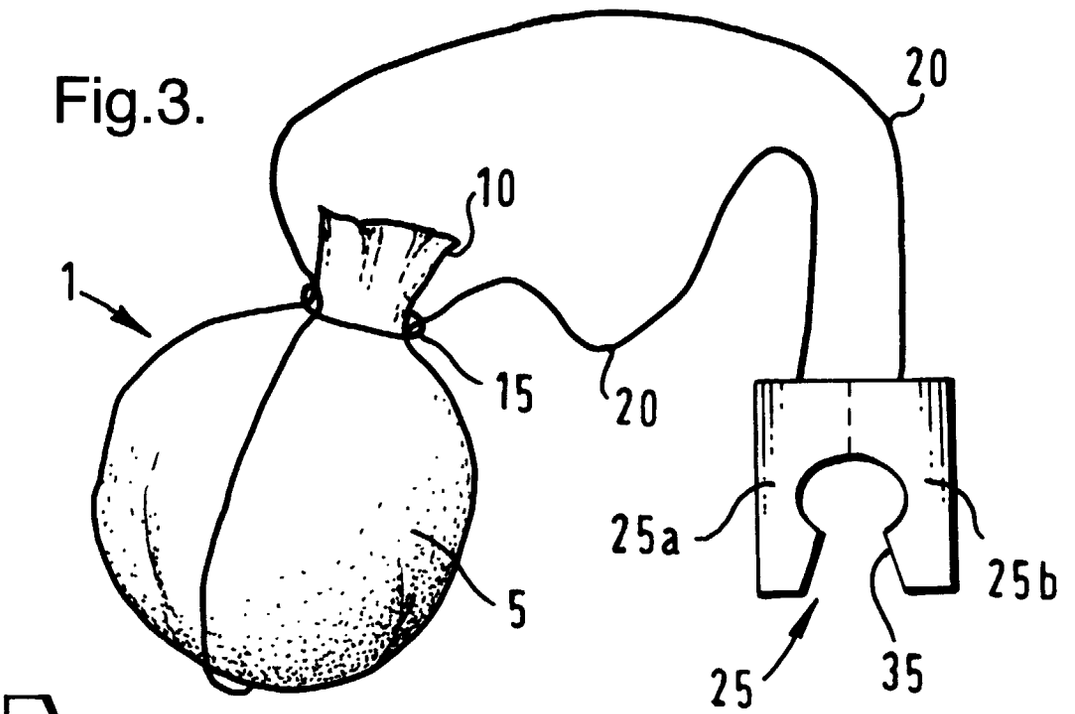
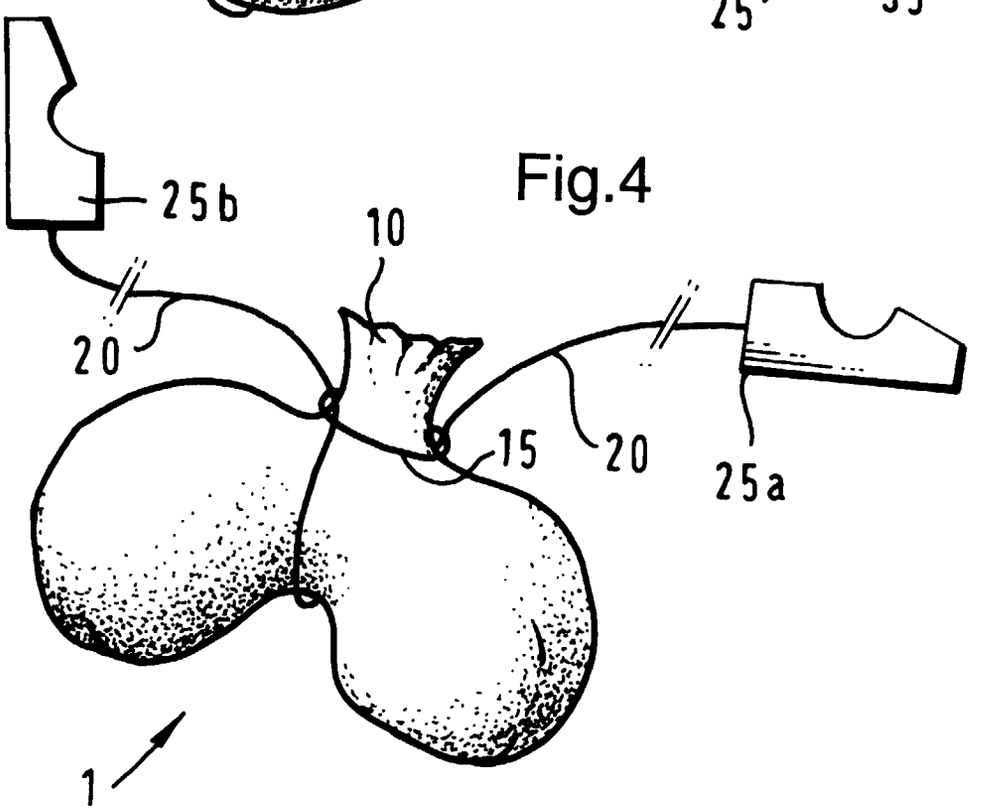


Fig.4



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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 2945

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	CH 165 348 A (RIKLI, A) 16 January 1934 * page 1, left-hand column, paragraph 3 - page 1, right-hand column, paragraph 1 * * figure *	1,2,4,5,7	B65D81/34
D,Y	US 1 672 518 A (ENSKO, R.) 5 June 1928 * page 1, line 60 - line 89 * * figures 1-3 *	1,2,4,5,7	
A	WO 94 07763 A (UNILEVER PLC ;UNILEVER NV (NL)) 14 April 1994 * page 4, line 3 - page 5, line 15 * * figures 1-5 *	2-4,6,7	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	31 July 1998	Wennborg, J

CATEGORY OF CITED DOCUMENTS

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