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INFUSION PACKAGES

This invention relates to infusion packages, and more particularly a tea bag having a protective cover, and which protective cover can be used to support the tea bag on the edge of a cup, jug,

5. pitcher or other container and to protect the fingers when removing the tea bag from the cup.

Tea bags are known which contain a quantity of tea, some of which are initially packed in a protective cover. The protective cover is then removed from

10. the tea bag with the cover being attached by a string to the tea bag, whereby the tea bag may be easily withdrawn from a cup, teapot or the like. Alternatively, other bags have a string and tag attached, while others are simply bags with no cover or string attached.

15. Swiss Patent No. 563,756 describes a tea bag which is protected by two cover leaves whereby an edge of the flat tea bag is connected to one edge of one cover leaf, and that the two cover leaves for the protective housing at the opposite edge are
20. connected with one another. In this patent the tea bag in one embodiment is connected from the join of the two cover leaves with the cover leaves extending across over the opposite edges of the cup to support the tea bag in the centre of the
25. cup. This then obstructs the opening to the cup and creates difficulties in pouring the boiling water into the cup.

- In the second embodiment, the tea bag is attached to one free end of one of the cover leaves. However,
30. when such a unit is used, it is difficult if not

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impossible to use the cover leaves to be repositioned against the tea bag for grasping the bag to squeeze the bag to obtain the last free liquid in the bag before disposal.

5. U.S. Patent No. 3,895,118 discloses an infusion bag having a porous-walled container and a strip of non-porous sheet material secured thereto and folded about the container along a line spaced from the top edge of the container to define a portion projecting therefrom as a handle. The container is joined to the folded over portion of the strip by a staple passing through both sides of the folded over strip and the top edge of the container. Both sides are folded back and are joined together by
10. engaging means.
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- The bag is not supported in the cup and in fact if the bag is too flexible, the strips themselves will be in contact with the water and also no provision is made for removing the excess liquid to prevent
20. drips during disposal.

- West German Patent No. 2,264,566 shows a similar unit to U.S. Patent No. 3,895,118, but with the added feature that means are provided in one embodiment to support the infusion container by a flexible portion
25. to hook over the spout of a teapot.

- In another embodiment the bag is supported over the edge of the cup, with one leaf outside and the other turned upwardly. As the bag is attached by a staple passing through both leaves, the bag does
30. not seat firmly on the cup or pitcher rim due to

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the rigid nature of the stapled portion of the leaves, also there is no cantilever support and the bag tends to fall into the cup or pitcher.

U.S. Patent No.2,192,605 describes an infusion package with a sheet of semi-stiff non-porous material crimped to the package in side by side relation to form a handle which is hooked to a container.

The sheet is hinged at both sides and both leaves are folded back to be parallel to form a handle, both leaves being bent back to form a hook, the lower portion of the handle being inserted into the water in the cup. It is difficult then to fold both leaves back to cover the bag to squeeze the last drops from the bag. In one alternative, the cover may be on one side only of the bag and also a narrow strip may be used, or can be provided to hook onto the cup rim.

It is an object of this invention to provide an infusion package such as a tea bag and protective cover which will protect the tea bag in packaging and storage, while providing means to support the tea bag in the liquid in the cup without obstructing the opening to the cup, which can be agitated to improve and speed up infusion, and which also can be used for safely withdrawing the tea bag from the cup for squeezing the residue and disposal of the tea bag.

According to one aspect of the present invention there is provided an infusion package, such as a tea bag, and cover, the cover comprising two leaves joined together about a fold line, said infusion package being secured to one leaf adjacent said fold line whereby said fold line is above the point of securement to enable the leaves to fold to one side of the package with no part of either leaf being on the cup side of

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the package when suspended in a cup by inserting the package inside the cup with one leaf passing down the outside of the cup.

Thus there is provided, according to one specific aspect of the invention, an infusion package, such as a tea bag, with a protective cover, the cover preferably being a single sheet having two leaves, the infusion package being attached to one of said leaves adjacent the centre of the sheet whereby said package may be supported from a top edge of a cup or container in which the liquid is to be infused, said one leaf extending down the outside of the cup with the other leaf being folded upwardly and back so that the entire opening of the cup is exposed, and for disposal the said other leaf is folded downwardly over the package while it is being removed from the cup, so that it can then be squeezed if desired of by the fingers grasping the two folded over leaves.

There is also provided, according to the invention, a method of manufacturing an infusion package, such as a tea bag, and cover, the package, for example, having a crimped peripheral flange, the method comprising the steps of providing a sheet of material, such as paper, to form the cover, stapling or otherwise fixing the package to the sheet at a position below the transverse centre line of the sheet to form two leaves to overlie the package.

The invention also provides a method of infusing a substance into a liquid in which the substance is contained in a porous bag, the bag being attached at its upper edge to a sheet of material just below a centre horizontal fold line across the sheet of material to form two leaves extending down one on each side of the bag, the method comprising the steps of folding the unattached leaf back fully, placing the bag over the rim of the cup with the attached leaf extending down the outside of the cup, so that the edge of the cup is wedged between the bag and the attached leaf thus exposing the open area of the cup, adding water to the cup to cover the bag, to infuse the substance into the water, and after infusion folding the unattached leaf down as the bag is removed, the bag being held above the cup to squeeze the bag to remove excess infused liquid and disposing of the bag.

In order to more fully describe the invention reference will now be made to the accompanying drawings in which:

Figure 1 is a perspective view of a tea bag and cover in an open position;

Figure 2 is a side elevation in a folded condition;

Figure 3 shows the tea bag supported on a cup;

Figure 4 shows a side elevation of the tea bag and cover positioned in the cup; and

Figure 5 is a plan view of Figure 4.

In a preferred embodiment while referring to the drawings, the cover sheet 1 comprises a first leaf 2 and a second leaf 3, the two leaves in this embodiment being separated by a hinge or fold line 4.

A tea bag 5 is attached to only the first leaf 2 by a staple, adhesive, heat sealing or the like 6 at a central region along one flange portion 7 of the tea bag so that the tea bag is only attached at this point adjacent to and immediately below the fold line, so that the second leaf may be opened out around the fold line 4. Also the tea bag 5 may be moved and spaced from the first leaf 2 in a hinging manner. The flange portion 7 of the bag may be conventionally formed by heat sealing and/or crimping.

When the tea bag is packaged, the leaves 2 and 3 may be joined together to seal the tea bag 5 therebetween, and this may be by releasable adhesive joining the edges of the leaves 2 and 3, or by a perforated tear-off portion around the edges of the leaves 2 and 3.

Figure 1 shows the tea bag in its opened out form, and Figure 2 shows the tea bag in its folded form, for example, when the tea bag is removed from the cup.

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- As shown in Figure 3 the tea bag is inserted into the cup with the first leaf 2 extending downwardly on the outside of the cup, with the second leaf 3 being folded upwardly to be generally vertical or
5. back thus exposing the entire open end of the cup for the pouring of the boiling water.

- For removal of the tea bag, the second leaf 3 is folded downwardly over the tea bag as the tea bag is removed from the cup so that it can be
10. squeezed if desired and then can be disposed of.

- It has been found that by utilising a single attachment or staple 6, at a central region of the flange portion 7, that the tea bag itself will then curve to follow the contours of the cup and
15. allow the second leaf 3 to extend upwardly, or even be bent downwardly as shown in Figures 4 and 5.

- As will be seen, due to the single attachment point of the tea bag to the leaf 2, the cup rim is in effect wedged between the curved top edge of
20. the bag and the outer leaf 2 of the cover. This wedging thus produces a gripping effect so ensuring that the bag and cover are securely located on the top edge of the cup, the top edge of the bag moving away from the leaf 2 and thus generally
25. conforming to the inside contour of the cup. The ends of the top edge of the bag separate from the leaf and the bag and cover are supported by being wedged on the one hand by a portion of the sheet on the outside of the cup and below the staple,
30. and on the other hand a portion of the bag below the upper edge thereof which curves to conform

to and rest against the inside of the cup below its rim.

While a single attachment point is preferred, this may extend over a greater area, for example 5. a pair of staples or two heat sealing points may be utilised. In all instances, by the bag being inside the leaf outside of the cup, there is a cantilever effect to balance the bag in the wedged condition.

10. The cover sheet can be formed of a single piece of any suitable material, for example 80 GSM paper is entirely satisfactory, this providing sufficient heat insulation for the removal of the tea bag by the fingers, and yet has sufficient 15. absorbency to absorb any drips or moisture coming from the tea bag while it is being disposed.

In alternative forms the cover sheet can be formed of a plastics material, a laminated material of paper and plastic or paper and metal foil, or 20. alternatively can be of a corrugated form. It is preferred that the leaves 2 and 3 are joined by a fold line, but this is not essential and the fold line can be omitted. Also the cover sheet 1 may be formed from two separate sheets 2 and 3, 25. these being joined together at the fold line.

In the embodiment shown, the tea bag has a heat sealed surround or edge, but it is to be realized that the invention can use other forms of tea bags, for example those in which the top 30. of the bag is closed by folding over and stapling.

This staple could be used for attachment to the cover sheet of the present invention. Alternatively other forms of tea bag can be used by merely attaching the top to the cover sheet.

5. It will be seen that the tea bag and cover is of simple construction and can be easily and economically manufactured by feeding the bags and sheets through a stapling machine. The stapling machine may crease the sheets before or after
10. stapling, or alternatively the sheets may be creased to form the fold line prior to feeding into the machine. Thus, there can be a single operation in the machine and this achieves advantages of economy over the prior art machines to produce the prior art
15. bags and covers. Also economy is produced when compared with bags with strings and tags attached for removal of the bag from the cup or pot.

20. Not only is there reduced capital costs of the machine but also economies in the saving of material.

25. While the invention is particularly directed to tea bags for infusing either herbal teas or other forms of tea, the bag can also be used for containing ground coffee, instant coffee, soups or any other infusible or soluble material as desired in hot or cold liquid.

30. Also it is to be realized that while the invention has been described with particular reference to use with a cup, it is to be realized that it can also be used with other containers,

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- such as teapots, jugs and the like. In these instances the two leaves can be extended in length and the bag be provided with an extended upper flap or flange, so that the bag would be
5. immersed in the water. The operation in this instance would be similar to that above described.

- Also the invention can be utilised for cold tea brewing in a pitcher or jug for iced tea with the bag being of larger size, such as for 3 or 4
10. cups. The bag can be of such a size that the bag is inserted in the water in the pitcher. Particularly when cold brewing is needed, when the tea bag is immersed over night it is virtually essential that the bag be squeezed to achieve the full flavour
15. by removing the residue of concentrated liquor.

- When the bag is to be used for brewing in large containers or pitchers, the bag will naturally be of larger size, both in width and length. In these instances, the bag can be attached to the
20. leaf by two spaced staples. In this way the bag and leaf will bend and conform to the rim of the jug or pitcher, the spacing of the staples being thus related to the diameter of the jug or pitcher, so that the wedging effect will take place to hold
25. the bag securely on the rim of the jug or pitcher.

- Although one form of the invention has been described in some detail it is to be realized that the invention is not to be limited thereto but can include various modifications falling within
30. the ~~spirit and~~ scope of the invention.



CLAIMS

1. An infusion package, such as a tea bag, and cover, the cover comprising two leaves joined together about a fold line, said infusion package being secured to one leaf adjacent said fold line whereby said fold line is above the point of securement to enable the leaves to fold to one side of the package with no part of either leaf being on the cup side of the package when suspended in a cup by inserting the package inside the cup with one leaf passing down the outside of the cup.
2. An infusion package and cover as claimed in claim 1 in which the infusion package is secured to the said one leaf at only a central region along the length of the intended top edge of the package when suspended in a cup, whereby, in use, the bag generally conforms to the shape of the cup.
3. An infusion package and cover as claimed in claim 1 or claim 2 in which the infusion package is secured to the said one leaf by heat sealing.
4. An infusion package and cover as claimed in claim 1 in which the infusion package is secured to the said one leaf by a staple, whereby, in use, the rim of the cup rests on areas of the bag and said one leaf respectively adjacent the staple so that the bag generally conforms to the shape of the cup.
5. An infusion package and cover as claimed in claim 4 in which the cover is a single sheet, a fold line being provided across the centre of the sheet, the



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staple being applied just below the fold line through one leaf only of the sheet.

6. An infusion package and cover as claimed in any one of the preceding claims in which the cover is formed from a sheet of paper.

7. A method of manufacturing an infusion package, such as a tea bag, and cover, the infusion package, for example, having a crimped peripheral flange, the method comprising the steps of providing a sheet of material to form the cover, stapling or otherwise fixing the package to the sheet at a position below the transverse centre line of the sheet and forming a fold line on the transverse centre line of the sheet to form two leaves to overlie the package.

8. A method of infusing a substance into a liquid, in which the substance is contained in a porous bag, the bag being attached at its upper edge to a sheet of material just below a centre horizontal fold line across the sheet of material to form two leaves extending down one on each side of the bag, the method comprising the steps of folding the unattached leaf back fully, placing the bag over the rim of the cup with the attached leaf extending down the outside of the cup, so that the edge of the cup is wedged between the bag and the attached leaf thus exposing the open area of the cup, adding water to the cup to cover the bag, to infuse the substance into the water, and after infusion folding the unattached leaf down as the bag is removed, the bag being held above the cup to squeeze the bag to remove excess infused liquid and disposing



of the bag.

9. A tea bag and cover substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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