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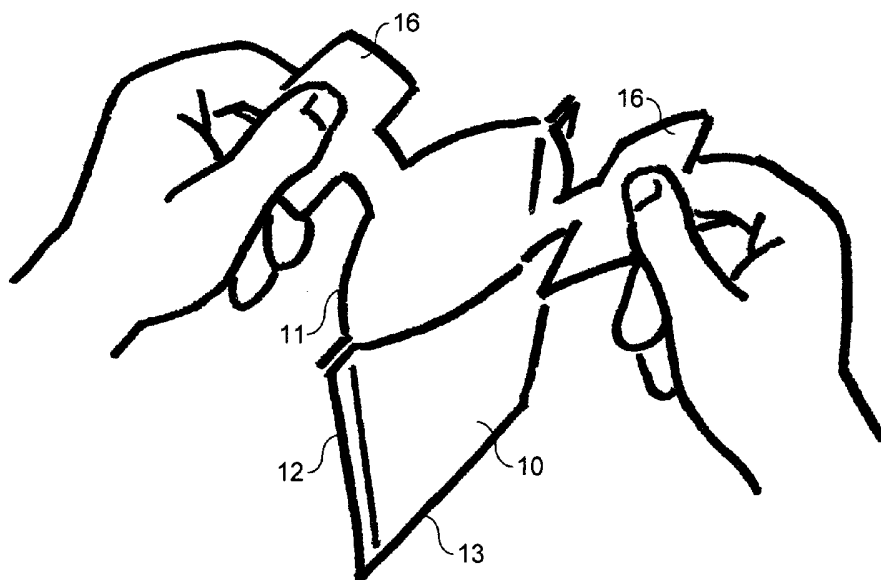
(52) UK CL (Edition X ):  
**A4E E140 E160**

(56) Documents Cited:  
**GB 1145100 B** **EP 0679354 A1**  
**WO 1993/007791 A1** **DE 003202386 C2**  
**US 5937737 B** **US 3616934 B**  
**US 3370524 B**

(58) Field of Search:  
UK CL (Edition X ) **A4M**  
INT CL<sup>7</sup> **A47J**  
Other:

(54) Abstract Title: **Strainers for infusion of beverages**

(57) The disclosure relates to a disposable strainer for infusion of a beverage such as tea in a drinking vessel, the strainer being formed to seat in the vessel and having a closed lower end and an openable top to receive a particulate material and a liquid for infusion with the particulate material. The strainer is formed from a porous flexible sheet material (10) having lifting handles (16) at its upper end on either side of the strainer to enable the strainer to be removed with the residue particulate material after the infusion process leaving the infused liquid in the vessel for consumption.



**FIG. 3**

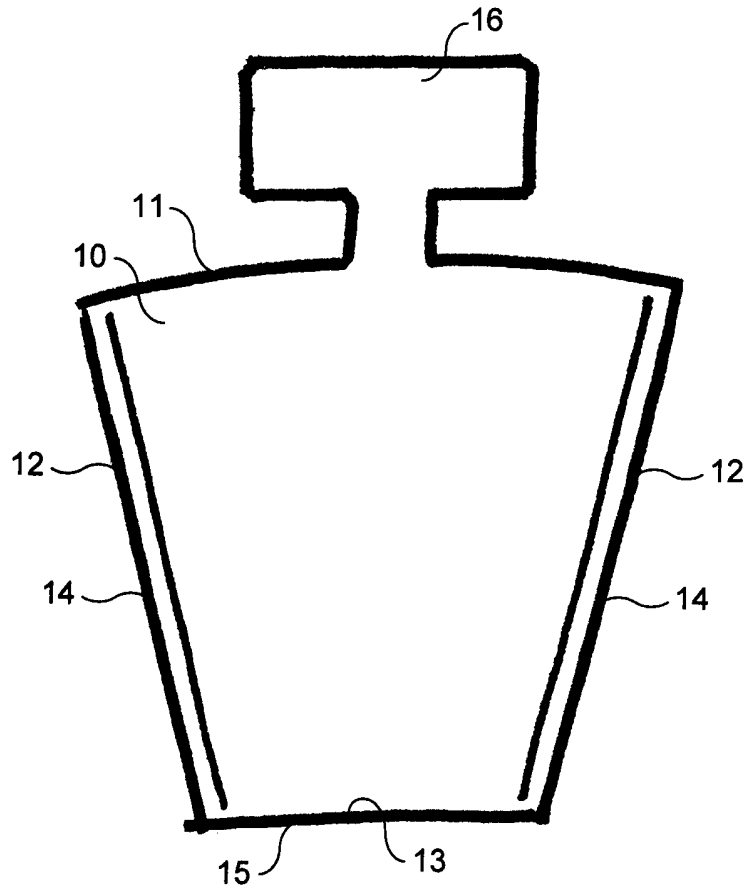


FIG. 1

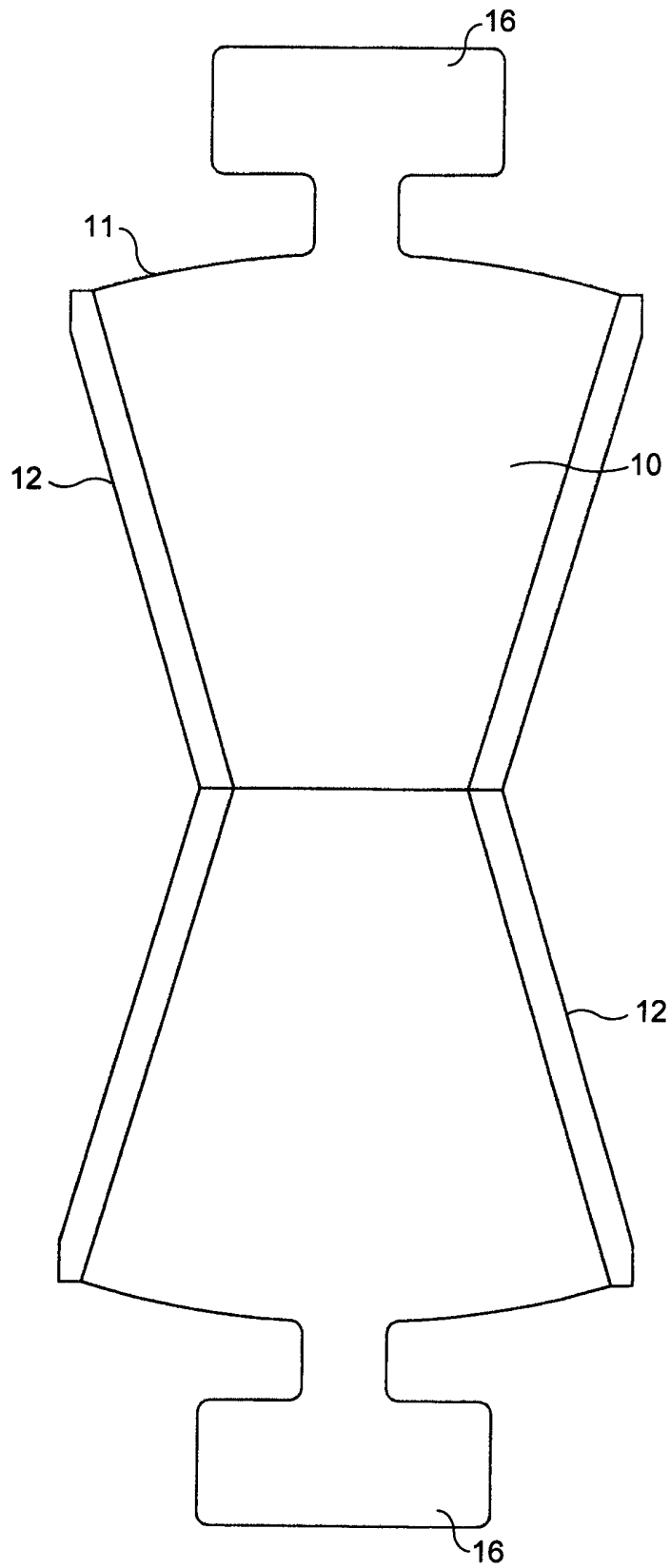


FIG. 2

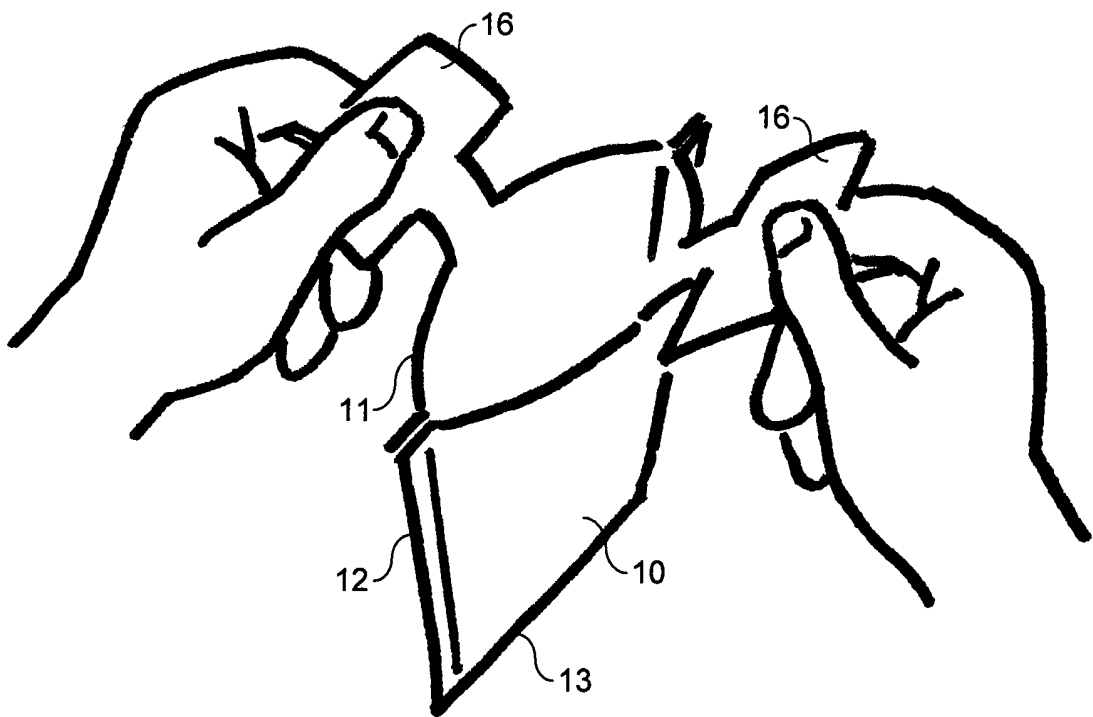


FIG. 3

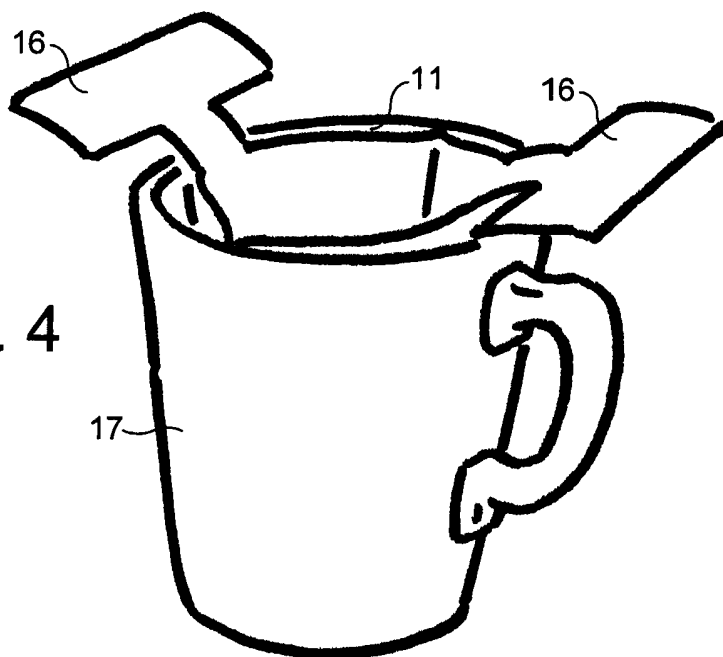


FIG. 4

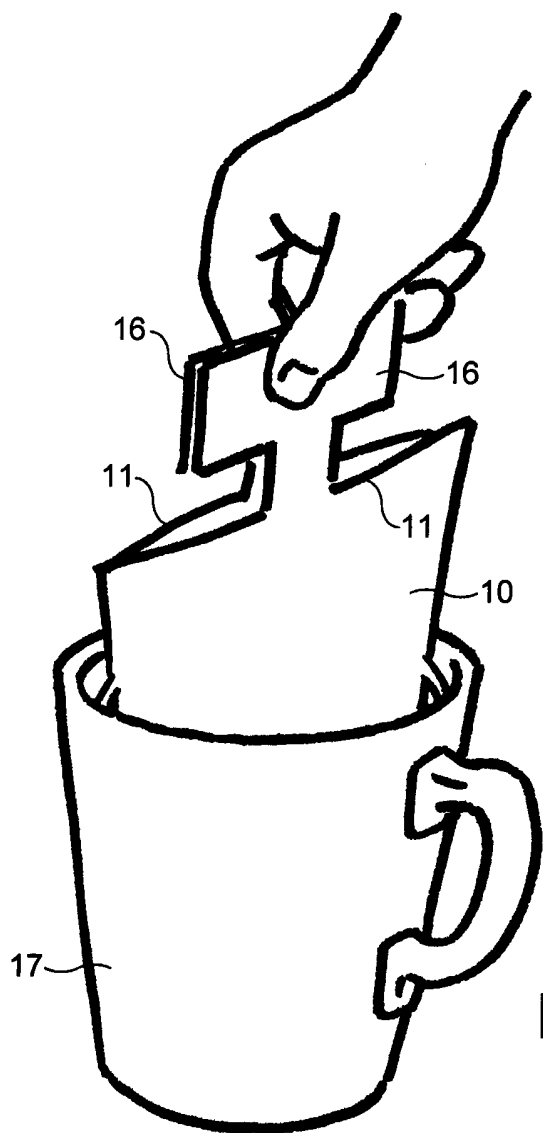


FIG. 5

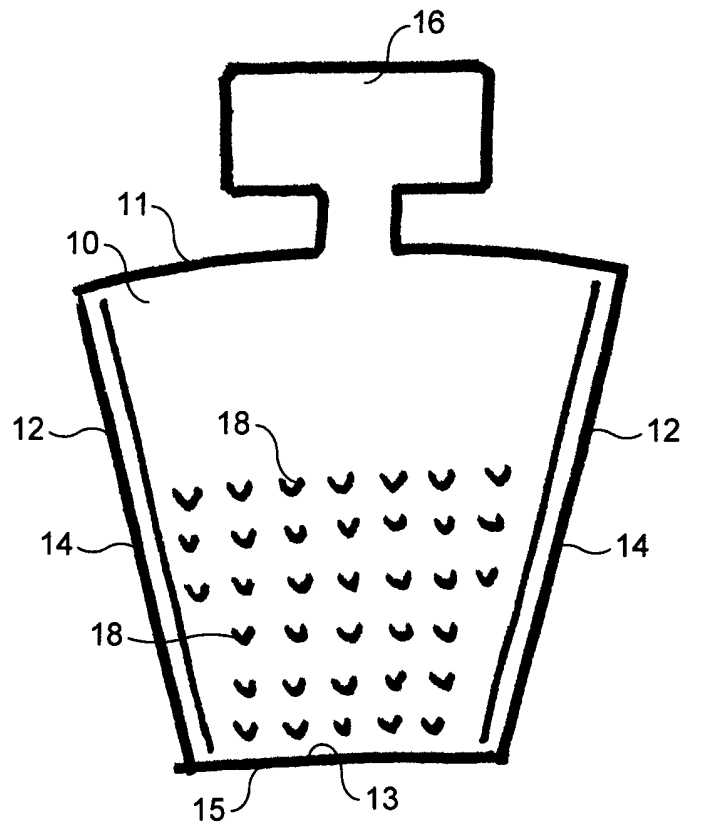


FIG. 6

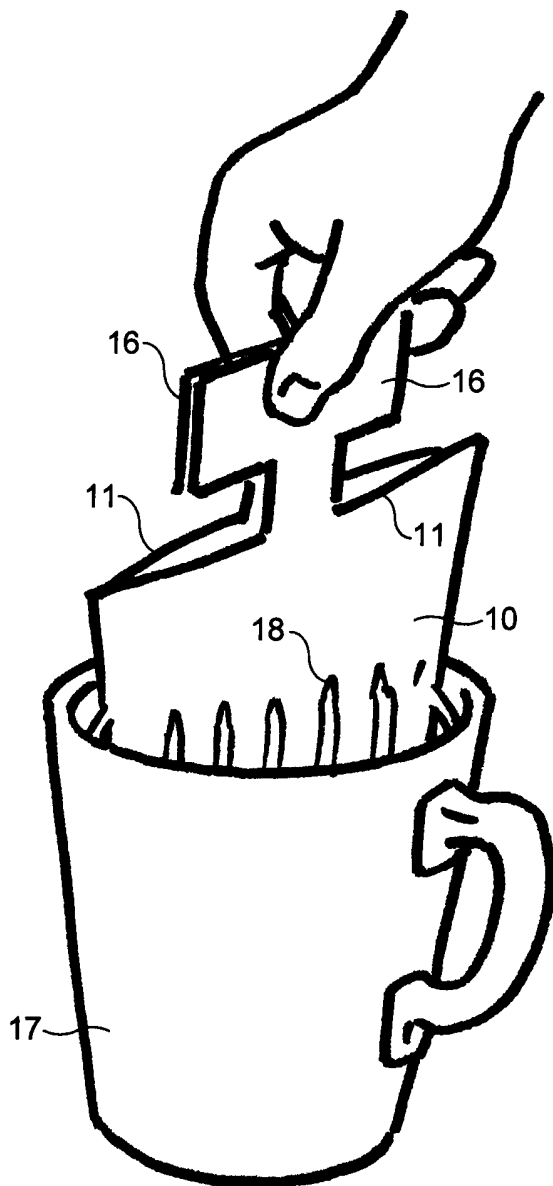


FIG. 7

**IMPROVEMENTS IN OR RELATING TO STRAINERS FOR INFUSION OF  
BEVERAGES IN A DRINKING VESSEL**

This invention relates to strainers for infusion of a  
5 beverage in a drinking vessel and is particularly although  
not exclusively applicable to the infusion of tea or similar  
herbal drinks.

Conventionally tea is either prepared in a teapot with  
10 either a supply of loose tea or a supply of teabags for  
infusion with boiling water in the pot. Where loose tea is  
provided, a strainer is normally used to remove the  
resulting tea leaves which pour with the tea from the pot to  
prevent the leaves reaching the teacup. The strainer is not  
15 required for teabags where the tea leaves are retained in  
the porous bags. On the other hand the tea normally used in  
teabags may not be of the same quality as loose tea and  
resulting in a less satisfactory drink.

20 A teapot is normally used for infusion of tea when  
several drinks are required to be provided. Where a single  
drink only is required, it is common to infuse a teabag with  
boiling water in a cup. However, as indicated above, the  
tea formed from teabags is generally of poorer quality as a  
25 result of the quality of the tea often used in teabags.  
There is a need therefore for providing an arrangement which  
can be used for making one off high quality cups of tea  
without the need to use a teapot and loose leaf tea.

30 This invention provides a strainer for infusion of a  
beverage in a drinking vessel, the strainer being formed to  
seat in the vessel and having a closed lower end and an

openable top to receive and a particulate material and/or liquid for infusion with the particulate material, the strainer being formed from a porous flexible sheet material having lifting handles at its upper end on either side of the strainer to enable the strainer to be removed with the residue of particulate material after the infusion process leaving the infused liquid in the vessel for consumption.

Preferably the upper end of the strainer has a pair of handles at spaced locations across the strainer formed integrally with the wall of the strainer for lifting the strainer from the vessel following the infusion process.

For example, the handles may be T-shaped, the leg of the T being formed integrally with the wall of the strainer and the cross piece of the T providing the handle to be grasped for lifting the strainer from the vessel.

In any of the above arrangements, the strainer may be tapered towards its bottom end to fit in a drinking vessel which reduces in cross section towards the bottom of the vessel.

Also in any of the above arrangements, the strainer may be formed from a folded sheet of flexible porous material, the blank providing two side walls, the side edges of which are bonded together to form an open topped receptacle for the particulate material and liquid for infusion with the particulate material.



In a specific arrangement according to the invention the strainer is generally frusto-conical in shape tapering towards its bottom end.

5           According to a further feature of the invention the wall of the strainer may have a multiplicity of spaced outlets having flap valves which close the outlets when the wall of the strainer is in contact with the wall of the vessel during the infusion process and which open  
10 automatically when the strainer is lifted out of the vessel to release the infused liquid from the strainer into the vessel.

In the latter arrangements the flap controlled outlets  
15 are formed by a multiplicity of U-shaped slits in the wall of the strainer to create the outlets and flaps controlling the outlets.

The following is a description of some specific  
20 embodiments of the invention, reference being made to the accompanying drawings in which:

Figure 1 is an elevation view of a strainer for  
infusion of a tea or other herbal drink or in a cup formed  
25 from a folded blank of a suitable porous paper of sufficient wet strength;

Figure 2 is a view of a blank from which the strainer  
is formed prior to folding;

Figure 3 is a perspective view of the strainer showing the upper end of the strainer being opened to receive a supply of tea for infusion;

5        Figure 4 is a perspective view of a cup or mug with the strainer in situ for infusion of a drink;

Figure 5 illustrates the withdrawal of the strainer and residual particular material from the cup or mug following  
10    infusion;

Figure 6 is a similar view to Figure 1 showing the modified form of the strainer; and

15        Figure 7 is a similar view to Figure 5 showing the withdrawal of the modified form of strainer from the cup.

Referring firstly to Figure 1 of the drawings, there is shown a strainer for infusion of a beverage in a drinking  
20    vessel. The strainer is formed from a porous sheet material and comprises a pair of walls 10 having upper ends 11, side edges 12 and a bottom edge 13.

The strainer is formed from a blank providing two side  
25    walls joined base to base by a fold line. The blank is formed from sheet material such as a thin paper of the type typically used for teabags and has sufficient wet strength to enable the strainer to be lifted from a cup or mug with the residual leaves in the strainer for disposal.

30

The side walls 10 are tapered towards the bottom fold line so that when the side walls are folded together and the

side edges are adhered or bonded together a receptacle is formed for receiving tea or other herbal particulate material from which a drink can be infused.

5           The upper edges of the side walls are unattached and each side wall has an upstanding T-shaped handle 16. The handles can be grasped by the user to separate the side walls at the upper end of the strainer as illustrated in Figure 3 to receive a supply of tea or other herbal  
10 particulate material from which a drink is to be infused. The strainer is dimensioned to fit inside the mug with the side walls of the strainer supported by the wall of the mug and the handles of the strainer draped over the rim of the mug. Boiling or hot water is poured into the strainer for  
15 infusion with the tea or other particulate material in the strainer. After a suitable period has lapsed, the handles are brought together and used to lift the strainer from the mug as illustrated in Figure 5 with the liquid in the strainer issuing through the pores of the strainer walls  
20 whilst the residue of the tea or other particulate material is retained in the strainer to leave a freshly infused drink for consumption.

As indicated above the strainer is formed from a porous  
25 paper similar to the paper used for conventional teabags and is intended to be disposable.

The handles of the strainer can be embossed or printed with decorative material and/or product information.

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Figures 6 and 7 show an alternative construction in which the side walls of the strainer are formed with a

multiplicity of slits 18 which may be U-shaped, S-shaped or of tear-drop shaped slits in the side walls through which the liquid can be released from the strainer when the strainer is lifted from the mug as shown in Figure 7.

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587081; GCB; MMC

CLAIMS:

1. A strainer for infusion of a beverage in a drinking vessel, the strainer being formed to seat in the vessel and  
5 having a closed lower end and an openable top to receive a particulate material and a liquid for infusion with the particulate material, the strainer being formed from a porous flexible sheet material having lifting handles at its upper end on either side of the strainer to enable the  
10 strainer to be removed with the residue particulate material after the infusion process leaving the infused liquid in the vessel for consumption.

2. A strainer as claimed in claim 1, wherein the upper end  
15 of the strainer has a pair of handles at spaced locations across the strainer formed integrally with the wall of the strainer for lifting the strainer from the vessel following the infusion process.

20 3. A strainer as claimed in claim 1 or claim 2, wherein the handle or handles are T-shaped, the leg of the T being formed integrally with the wall of the strainer and the cross piece of the T providing the handle to be grasped for lifting the strainer from the vessel.

25

4. A strainer as claimed in any of the preceding claims, wherein the strainer is tapered towards its bottom end to fit in a drinking vessel which reduces in cross section towards the bottom of the vessel.

30

5. A strainer as claimed in any of the preceding claims, wherein the strainer is formed from a folded sheet of

flexible porous material, the blank providing two side walls to the strainer each having a top edge, side edges and a bottom edge at the fold line in the blank, the edges of the respective sides of the blank being adhered or bonded  
5 together to form the open topped receptacle for the particulate material and liquid for infusion with the particulate material.

6. A strainer as claimed in any of the preceding claims,  
10 wherein the strainer is generally frusto-conical in shape tapering towards its bottom end.

7. A strainer as claimed in any of the preceding claims, wherein the wall of the strainer has a multiplicity of  
15 spaced outlets having flap valves which close the outlets when the wall of the strainer is in contact with the wall of the vessel during the infusion process and which open automatically when the strainer is lifted out of the vessel to release the infused liquid from the strainer into the  
20 vessel.

8. A strainer as claimed in claim 7, wherein the flap controlled outlets are formed by a multiplicity of slits in the side walls of the strainer to create the outlets for  
25 liquid from the strainer.

9. A strainer as claimed in claim 8, wherein the slits are U-shaped, S-shaped or tear-drop shaped to provide said outlets.

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**Application No:** GB0424349.9  
**Claims searched:** 1-9

**Examiner:** Mr Neil Franklin  
**Date of search:** 12 December 2005

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-6	US 5937737 B (KARELL) Personal brewing filter device; see Figures 1 & 7
X	1,2,4,6	WO 93/07791 A1 (UNIGREEN) Filter element; see Figure 13
X	1,4,6	US 3616934 B (EHRlich) Disposable filter; see figures
X	1,2	DE 3202386 C2 (ZAGATTA) Filter for preparing tea or coffee; see Figures 1-3
X	1,4	GB1145100 B (KASAKOFF) Coffee brewing article; see Figure 3
X	1	US 3370524 B (KASAKOFF) Coffee brewer; see Figures 1-3
X	1	EP0679354 A1 (BUETTNER) Tea bag; see Figure 2

**Categories:**

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>X</sup> :

A4M

Worldwide search of patent documents classified in the following areas of the IPC<sup>07</sup>

A47J

The following online and other databases have been used in the preparation of this search report



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EPODOC; WPI