

(19)



(11)

**EP 2 665 663 B1**

(12)

**EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention  
of the grant of the patent:

**29.07.2015 Bulletin 2015/31**

(51) Int Cl.:

**B65D 85/812** <sup>(2006.01)</sup>

(86) International application number:

**PCT/GB2012/050113**

(21) Application number: **12701366.2**

(22) Date of filing: **19.01.2012**

(87) International publication number:

**WO 2012/098402 (26.07.2012 Gazette 2012/30)**

(54) **BREWING DEVICE**

**BRAUVORRICHTUNG**

**DISPOSITIF D'INFUSION**

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**

(72) Inventor: **PAPE, John**

**Oakhill, Somerset BA3 5AQ (GB)**

(30) Priority: **19.01.2011 GB 201100871**

(74) Representative: **Eve, Rosemary Margaret**

**Brookes Batchellor LLP**

**1 Boyne Park**

**Tunbridge Wells Kent TN4 8EL (GB)**

(43) Date of publication of application:

**27.11.2013 Bulletin 2013/48**

(56) References cited:

**WO-A1-2007/003009**

**AU-B2- 696 142**

**DE-A1-102005 028 618**

**FR-A1- 2 944 688**

**GB-A- 2 420 336**

(73) Proprietor: **Martinfield Limited**

**Oakhill, Somerset BA3 5AQ (GB)**

**EP 2 665 663 B1**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

## Description

**[0001]** The present invention relates to a brewing device according to the preamble of claim 1, particularly to a brewing device for brewing tea or coffee.

**[0002]** Tea and coffee are typically prepared by infusion brewing, i.e., by steeping tea leaves or coffee grounds in hot water. A variety of devices are available for separating spent coffee grounds or tea leaves from a brewed drink. For example, a French press uses a mesh filter fitted to a plunger to extract spent coffee grounds from the brew. When brewing loose-leaf tea, it is traditional to use a tea infuser. A commonly-used tea infuser comprises a mesh cage, which separates the tea leaves from the brew during steeping. The press and mesh cage must each be emptied and cleaned after use.

**[0003]** GB 2420356, which accords with the preamble of claim 1, discloses an infusion bag with a pair of pulling strips secured to a bottom seam and passing through a handle, and used to squeeze a tea bag.

**[0004]** The present invention seeks to provide a brewing device for brewing tea or coffee by infusion. It is an aim of the present invention to provide a single-use device that is convenient, cost-effective to produce and simple to use.

**[0005]** In one aspect, the present invention provides a brewing device for brewing tea or coffee comprising a handle, an actuator and a steeping portion, characterised in that said steeping portion comprises a squeezing strip and a resiliently deformable frame for retraining a porous or filter bag, said actuator is arranged to extend through said handle, and said squeezing strip is operative to, on relative motion of said handle and actuator, deform said frame and any said retained bag in a squeezing action.

**[0006]** The steeping portion comprises a resiliently deformable frame, more preferably a triangular or circular frame.

**[0007]** Suitably, the handle is formed as an elongate element, preferably tubular.

**[0008]** In one embodiment, the handle is integral the frame and the actuator is integral the squeezing strip.

**[0009]** In a further embodiment the handle is integral the squeezing strip and the actuator is integral the frame.

**[0010]** Preferably the device further comprises cooperative locking means in the actuator and handle to retain said steeping portion in a squeezed orientation.

**[0011]** Preferably the locking means comprises at least one barb, flap or stud on the actuator for engaging said handle portion.

**[0012]** Preferably the at least one barb has a first, non-locking, configuration, in which it is flush with the actuator and a second, locking, configuration, in which it projects from the actuator.

**[0013]** In a preferred embodiment, the brewing device is made substantially from paper, preferably waxed or water-resistant paper.

**[0014]** In preferred embodiments, the squeezing means is made from paper, preferably, waxed or water-

resistant paper.

**[0015]** In one embodiment, the brewing device is packaged with a porous bag containing loose-leaf tea, broken-leaf tea, fannings or ground coffee. Preferably, the porous bag is retained by the steeping portion. In one embodiment, the porous bag is secured to the steeping portion by means of an adhesive strip.

**[0016]** Advantageously, the device comprises at least one compartment for storing powdered milk, sugar, sweetener or a mixture thereof. Suitably, at least one compartment is provided on an exterior wall of the handle portion or within the actuator element.

**[0017]** The above and other aspects of the present invention will now be described in further detail, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 illustrates two perspective views of a first embodiment of a brewing device in accordance with the present invention;

Figure 2 illustrates a porous bag suitable for use with the embodiment of Figure 1;

Figures 3a and 3b are a series of partial perspective views of the embodiment 1, illustrating locking of the squeezing means;

Figure 4 illustrates two perspective views of the embodiment of Figure 1, showing the apparatus in use;

Figure 5 is a perspective view of a second embodiment of a brewing device in accordance with the present invention, in a first configuration;

Figure 6 is a perspective view of the embodiment of Figure 5 in a second configuration;

Figure 7 illustrates the operation of the embodiment of Figure 5 in use; and

Figure 8 illustrates a storage compartment in the embodiment of Figure 5.

**[0018]** Figure 1 illustrates a brewing device having a handle 10, a steeping portion 11 and a squeezer strip 12. Handle 10 is a hollow element having a grip end 20 and a stirring end 21. Steeping portion 11 adjoins stirring end 21 of handle 10. Squeezer strip 12 engages steeping portion 11 and handle 10. In particular, squeezer strip 12 engages an edge 14 of steeping portion 11 and is received by an open base of stirring end 21 of handle 10. Squeezer strip 12 extends from stirring end 21 to grip end 20. Grip end 20 has a sealed top, adjacent which is a slit 36 for engaging squeezer strip 12.

**[0019]** Steeping portion 11 comprises a generally triangular-shaped frame 22. A porous bag 40, containing tea leaves or coffee grounds, is retained in triangular

frame 22. Bag 40 has an adhesive strip 39 for attaching bag 40 to frame 22. Triangular frame 22 has an upper apex 15 and two lower apices 30, 31. Upper apex 15 adjoins stirring end 21 of handle 10. Opposite apex 15 is edge 14.

**[0020]** A first end of squeezer strip 12 comprises a loop that encircles steeping portion 11. In particular, the loop encircles edge 14 of triangular frame 22. A second end of squeezer strip 12 comprises an actuator element 13 in the form of tab. The tab projects from slit 36. Locking means, in the form of a plurality of barbs 37, is provided on actuator 13 (Figures 3a and 3b). In one embodiment, barbs 37 have a first configuration in which they are flush with actuator 13, and a second configuration, in which they project outwards from actuator 13 (Figure 3a). The second configuration is obtainable by bending actuator (13).

**[0021]** Squeezer strip 12 is operated by pulling the actuator tab in a direction that is away from frame 22 and perpendicular to edge 14. Triangular frame 22 is resiliently deformable, and in particular, edge 14 can be moved towards, and away-from, apex 15 by operation of squeezer strip 12. Movement of edge 14 towards apex 15 causes compression of bag 40 retained within triangular frame 22. Once the pulling force is removed from tab 13, squeezer strip 12 will relax and frame 22 will return to its original, non-compressed, configuration.

**[0022]** In certain embodiments, handle 10 includes one or more storage compartments (not shown) for storing a portion of powdered milk, sugar or artificial sweetener (or mixture thereof). Conveniently, the compartment is formed on an outer wall of handle 10.

**[0023]** It is intended that the brewing device of the present invention will be packaged with a porous bag 40, containing either tea leaves or coffee grounds, retained in steeping portion 11. In use of the brewing device, steeping portion 11 (and bag 40, retained therein) is submerged in a cup of hot water and stirred using handle 10. During steeping, tab 13 can be pulled (to compress bag 40) and released, in order to speed-up the infusion process. Once a drink has been prepared, the device is removed from the water and tab 13 is pulled to squeeze liquid from bag 40. Tab 13 can be pulled and released several times to squeeze additional liquid tea or coffee from bag 40. Prior to disposal of the device, barbs 37 are aligned adjacent slit 36 (Figures 3a and 3b) by pulling tab 13. Tab 13 is held in this final, locked, position by engagement of one of barbs 37 with handle 10.

**[0024]** A second embodiment 50 is illustrated in Figures 5 to 9. This embodiment is arranged to provide a "push to squeeze" operation, but the construction is broadly similar. Handle 51 is formed integrally with squeezing strip 52. Frame 53 of the steeping portion is formed integrally with squeezing actuator element 54 which passes within handle 51. Actuator element 54 and handle 51 are conveniently both tubular. As can be seen by a comparison of Figure 5 and Figure 6 and also from Figure 7, pushing down on squeezing actuator 54 causes

the lower edge of frame 53 to pull upwards against a bag 55 positioned within the frame, thereby compressing the bag 55 against a lower portion of frame 53, restrained by squeezing strip 52.

5 **[0025]** As shown in Figures 5 to 7, advantageously, this embodiment of the brewing device also includes locking means into the form of a series of studs 60 formed on squeezing actuator 54 engageable with an aperture 61 formed in corresponding location in handle 51.

10 **[0026]** As shown in Figure 8, suitably tubular actuator element 54 forms or includes a container to contain sugar or powdered milk or cream; or a mixture of the two, sealed by a cap or seal 62. It will be appreciated that the container will also have a closure at a lower end to retain the powdered materials.

15 **[0027]** The brewing device of the present invention is intended as a single-use product, sold as a factory-assembled unit. Since the device is not intended to brew multiple servings of tea or coffee, the handle and steeping portions can be formed entirely from paper, preferably waxed or water-resistant paper. Consequently, the device is simple and cost-effective to produce, as well as being straightforward to recycle. Furthermore, once a drink has been prepared, the device and bag can be disposed of as a single unit.

## Claims

- 30 1. A brewing device for brewing tea or coffee comprising a handle (10,51), an actuator (13, 54), and a steeping portion, **characterised in that** said steeping portion comprises a squeezing strip (12,52) and a resiliently deformable frame (22,53) for retaining a porous or filter bag,
  - 35 said actuator (13,54) is arranged to extend through said handle (10,51), and said squeezing strip is operative to, on relative motion of said handle (10,51) and actuator, deform said frame (22,53) and any said retained bag in a squeezing action.
- 40 2. A brewing device as claimed in claim 1, wherein the frame (22,53) is triangular or circular.
- 45 3. A brewing device as claimed in claim 1 or claim 2, wherein the handle (10,52) is formed as an elongate element, preferably tubular.
- 50 4. A brewing device as claimed in any preceding claim wherein said handle (10) is integral with said frame (22).
- 55 5. A brewing device as claimed in any preceding claim wherein said actuator (13) is integral with said squeezing strip (12).
6. A brewing device as claimed in any of claims 1 to 3, wherein said handle (51) is integral with said squeez-

ing strip (52)

7. A brewing device as claimed in any of claims 1 to 3, wherein said actuator (54) is integral with said frame (53).
8. A brewing device as claimed in any one of the preceding claims, further comprising cooperative locking means (37,60) in the actuator (13,54) and handle (10,51) to retain said steeping portion in a squeezed orientation.
9. A brewing device as claimed in claim 8, wherein the locking means comprises at least one barb (37), flap or stud (60) on the actuator for engaging said handle portion (10,51).
10. A brewing device as claimed in claim 9, wherein said at least one barb (37) has a first, non-locking, configuration, in which it is flush with the actuator (13) and a second, locking configuration, in which it projects from the actuator, said second configuration being obtainable by bending the actuator (13).
11. A brewing device as claimed in any one of the preceding claims formed substantially from paper, preferably waxed or water-resistant paper.
12. A brewing device as claimed in any one of the preceding claims wherein the handle portion comprises a compartment for storing powdered milk, sugar, artificial sweetener, or mixtures thereof.

#### Patentansprüche

1. Brühvorrichtung zum Brühen von Tee oder Kaffee, die einen Griff (10, 51), ein Betätigungsglied (13, 54) und einen Eintauchteil umfasst, **dadurch gekennzeichnet, dass:**

der Eintauchteil einen Ausdrücksteg (12, 52) und einen elastisch verformbaren Rahmen (22, 53) zum Halten eines durchlässigen oder filternden Beutels umfasst, wobei das Betätigungsglied (13, 54) derart angeordnet ist, dass es sich durch den Griff (10, 51) erstreckt, wobei der Ausdrücksteg bei einer relativen Bewegung des Griffs (10, 51) und des Betätigungsglieds den Rahmen (22, 53) und den darin gehaltenen Beutel in einer Ausdrückaktion verformt.
2. Brühvorrichtung nach Anspruch 1, wobei der Rahmen (22, 53) dreieckig oder kreisförmig ist.
3. Brühvorrichtung nach Anspruch 1 oder 2, wobei der Griff (10, 52) als ein längliches Element und vorzugs-

weise rohrförmig ausgebildet ist.

4. Brühvorrichtung nach einem der vorstehenden Ansprüche, wobei der Griff (10) einstückig mit dem Rahmen (22) ist.
5. Brühvorrichtung nach einem der vorstehenden Ansprüche, wobei das Betätigungsglied (13) einstückig mit dem Ausdrücksteg (12) ist.
6. Brühvorrichtung nach einem der Ansprüche 1 bis 3, wobei der Griff (51) einstückig mit dem Ausdrücksteg (52) ist.
7. Brühvorrichtung nach einem der Ansprüche 1 bis 3, wobei das Betätigungsglied (54) einstückig mit dem Rahmen (53) ist.
8. Brühvorrichtung nach einem der vorstehenden Ansprüche, die weiterhin zusammenwirkende Sperrvorrichtungen (37, 60) in dem Betätigungsglied (13, 54) und Griff (10, 51) umfasst, um den Eintauchteil in einer Ausdrückausrichtung zu halten.
9. Brühvorrichtung nach Anspruch 8, wobei die Sperrvorrichtung wenigstens einen Widerhaken (37), eine Lasche oder einen Zapfen (60) an dem Betätigungsglied für einen Eingriff in den Griffteil (10, 51) umfasst.
10. Brühvorrichtung nach Anspruch 9, wobei der wenigstens eine Widerhaken (37) eine erste nicht-sperrende Konfiguration, in welcher er bündig mit dem Betätigungsglied (13) ist, und eine zweite sperrende Konfiguration, in welcher er von dem Betätigungsglied vorsteht, aufweist, wobei die zweite Konfiguration erhalten werden kann, indem das Betätigungsglied (13) gebogen wird.

11. Brühvorrichtung nach einem der vorstehenden Ansprüche, die im Wesentlichen aus Papier und vorzugsweise aus einem gewachsenen oder wasserbeständigen Papier ausgebildet ist.
12. Brühvorrichtung nach einem der vorstehenden Ansprüche, wobei der Griffteil ein Fach zum Aufnehmen von Milchpulver, Zucker, Süßstoff oder Mischungen aus denselben umfasst.

#### Revendications

1. Dispositif d'infusion pour faire infuser du thé ou du café comportant une poignée (10, 51), un actionneur (13, 54) et une partie à faire tremper, **caractérisé en ce que** ladite partie à tremper comprend une bande de pressage (12, 52) et une structure déformable élastique-

ment (22, 53) permettant de retenir un sachet poreux ou un sachet filtrant, ledit actionneur (13, 54) est conçu en vue de s'étendre à travers ladite poignée (10, 51), et ladite bande de pressage est active pour, sur un mouvement relatif de ladite poignée (10, 51) et de l'actionneur, déformer ladite structure (22, 53) et l'un quelconque dudit sachet retenu dans une action de pressage.

2. Dispositif d'infusion selon la revendication 1, dans lequel la structure (22, 53) est triangulaire ou circulaire. 10
3. Dispositif d'infusion selon la revendication 1 ou la revendication 2, dans lequel la poignée (10, 51) est configurée sous la forme d'un élément allongé, de préférence tubulaire. 15
4. Dispositif d'infusion selon l'une quelconque des revendications précédentes dans lequel ladite poignée (10) est solidaire de ladite structure (22). 20
5. Dispositif d'infusion selon l'une quelconque des revendications précédentes dans lequel ledit actionneur (13) est solidaire de ladite bande de pressage (12). 25
6. Dispositif d'infusion selon l'une quelconque des revendications 1 à 3, dans lequel ladite poignée (51) est solidaire de ladite bande de pressage (12). 30
7. Dispositif d'infusion selon l'une quelconque des revendications 1 à 3, dans lequel ledit actionneur (54) est solidaire de ladite structure (53). 35
8. Dispositif d'infusion selon l'une quelconque des revendications précédentes comportant, de plus, des moyens de verrouillage coopératifs (37, 60) dans l'actionneur (13, 54) et la poignée (10, 51) pour retenir ladite partie à faire tremper dans une orientation sous pression. 40
9. Dispositif d'infusion selon la revendication 8, dans lequel les moyens de verrouillage comportent, sur l'actionneur, au moins un picot (37), une patte ou un tenon (60) pour s'engager avec ladite partie de poignée (10, 51). 45
10. Dispositif d'infusion selon la revendication 9, dans lequel ledit au moins un picot (37) présente une première configuration de non verrouillage, dans laquelle il se trouve de niveau avec l'actionneur (13), et une seconde configuration de verrouillage dans laquelle il fait saillie à partir de l'actionneur, ladite seconde configuration pouvant être obtenue en courbant l'actionneur (13). 50 55
11. Dispositif d'infusion selon l'une quelconque des re-

vendications précédentes constitué essentiellement à partir de papier, de préférence à partir de papier paraffiné ou de papier résistant à l'eau.

- 5 12. Dispositif d'infusion selon l'une quelconque des revendications précédentes dans lequel la partie de poignée comporte un compartiment pour stocker du lait en poudre, du sucre, un édulcorant artificiel ou un de leurs mélanges.

Figure 1

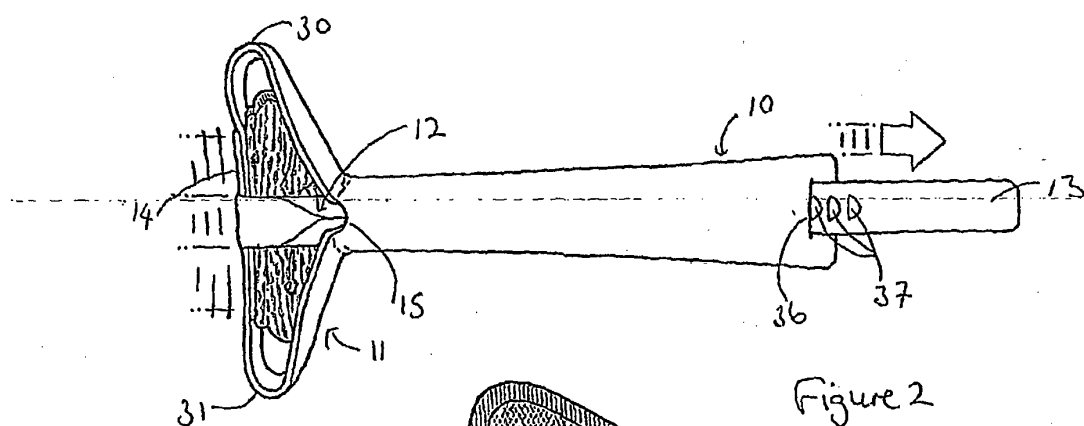
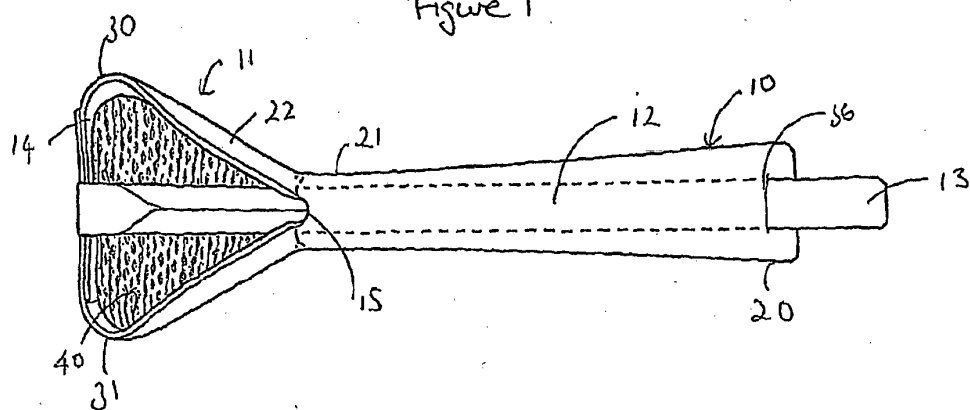
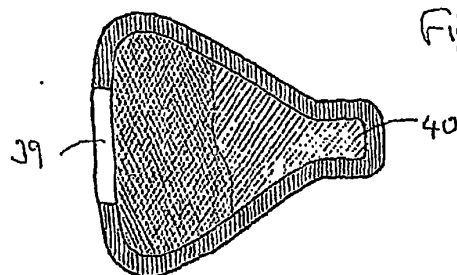


Figure 2



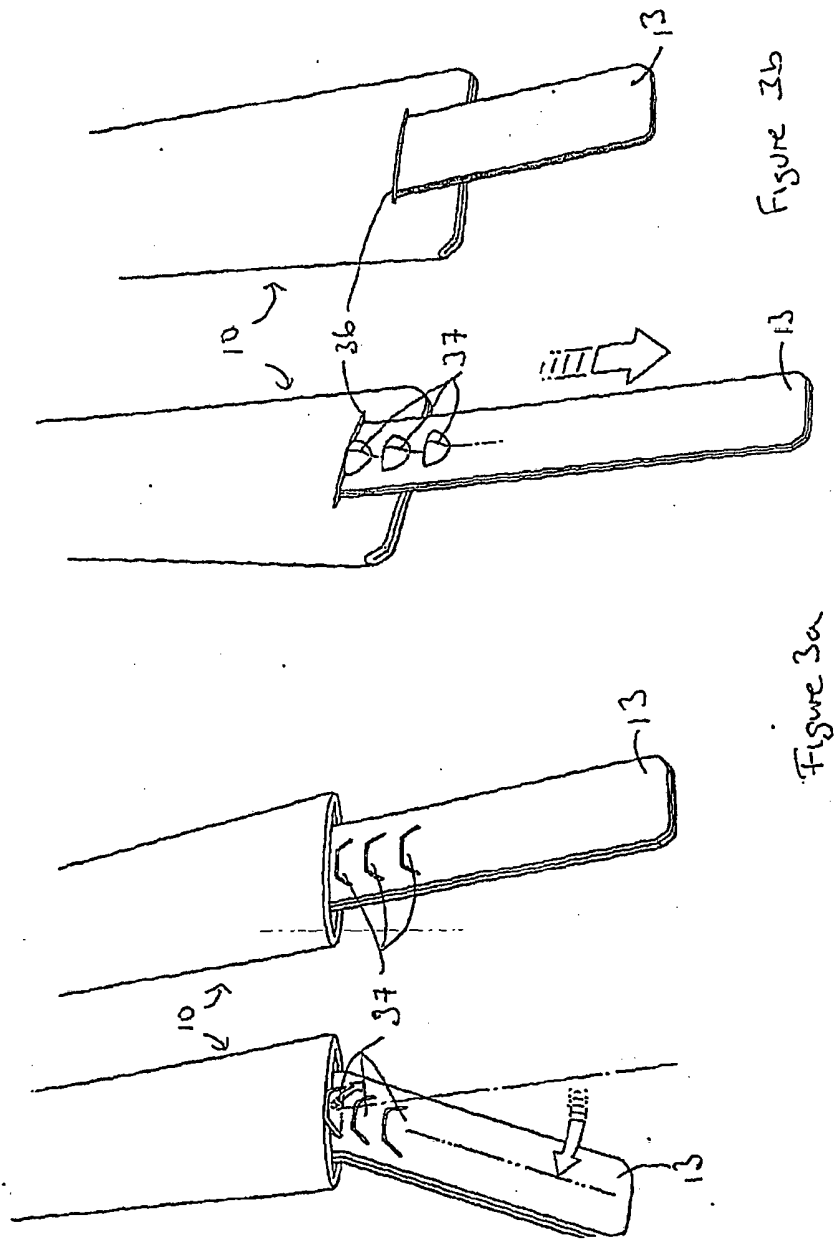


Figure 4

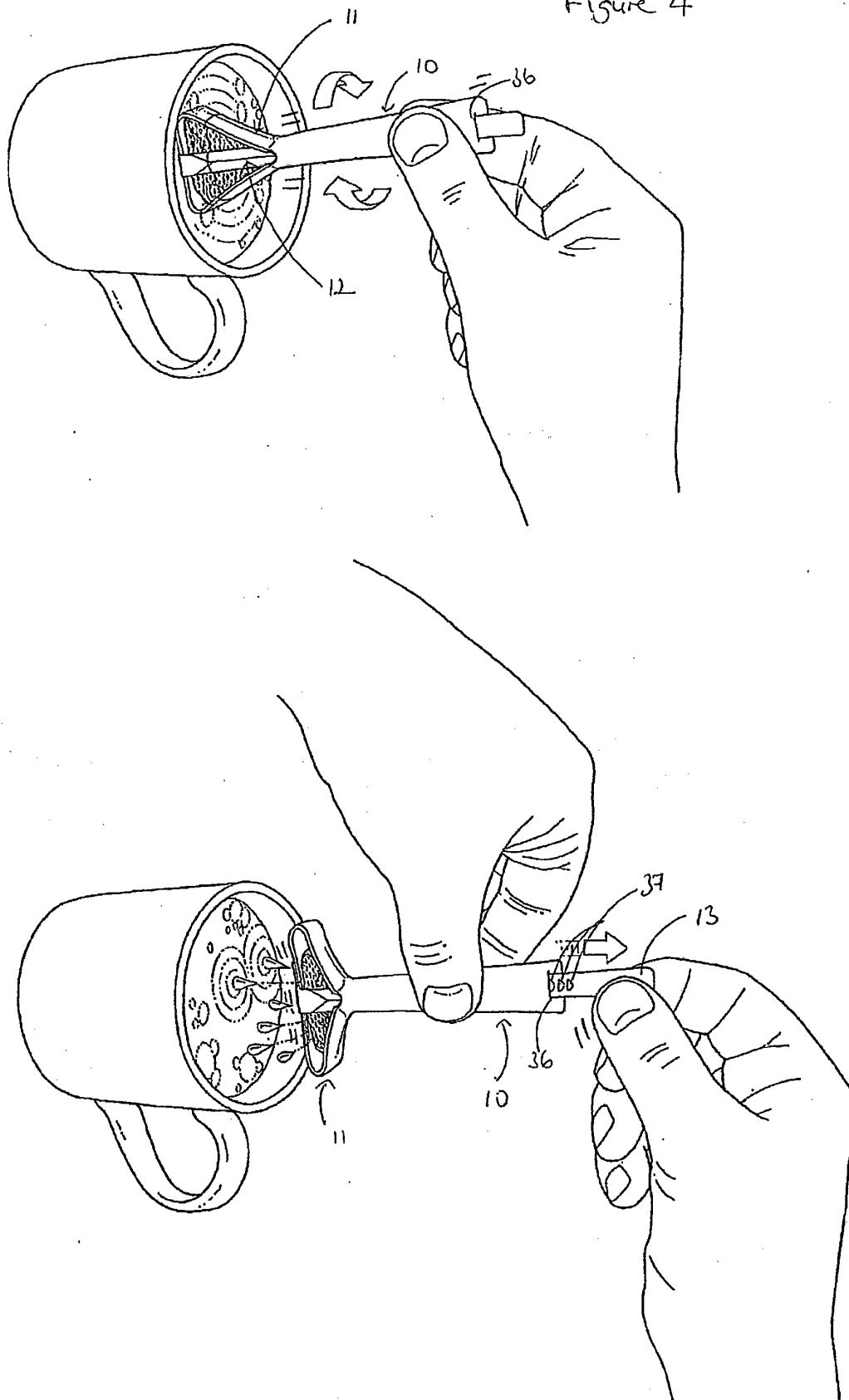




Fig 5

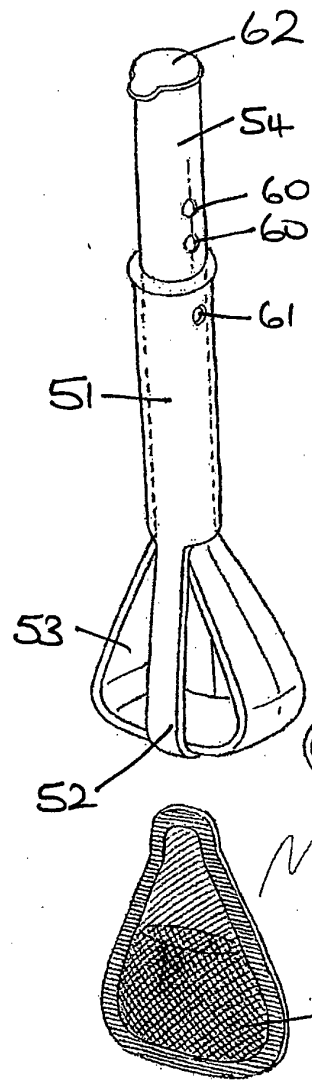
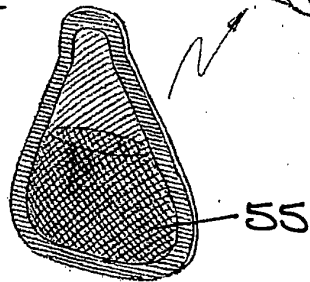
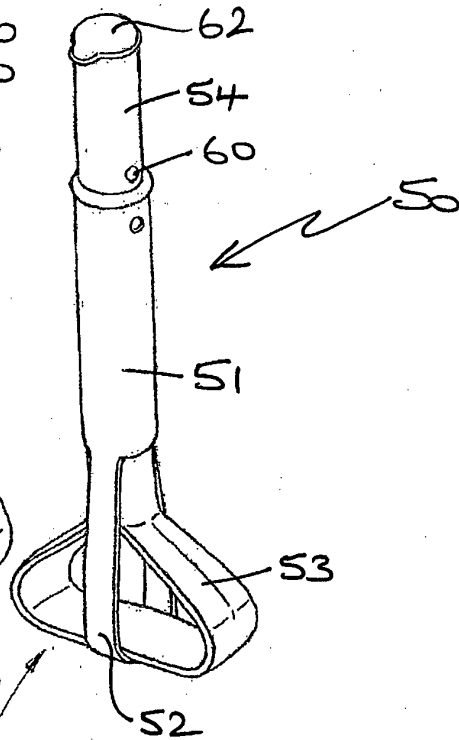
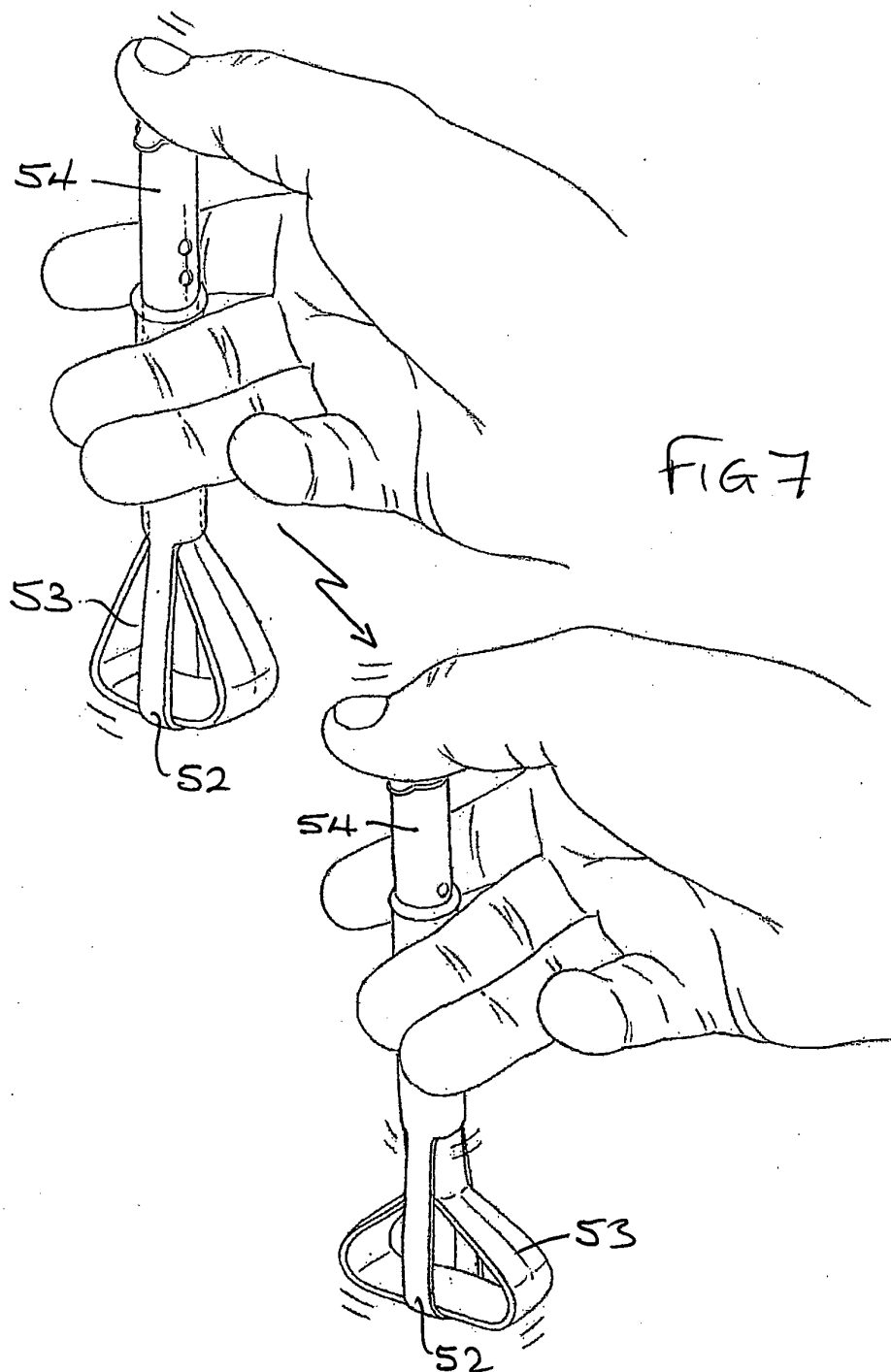
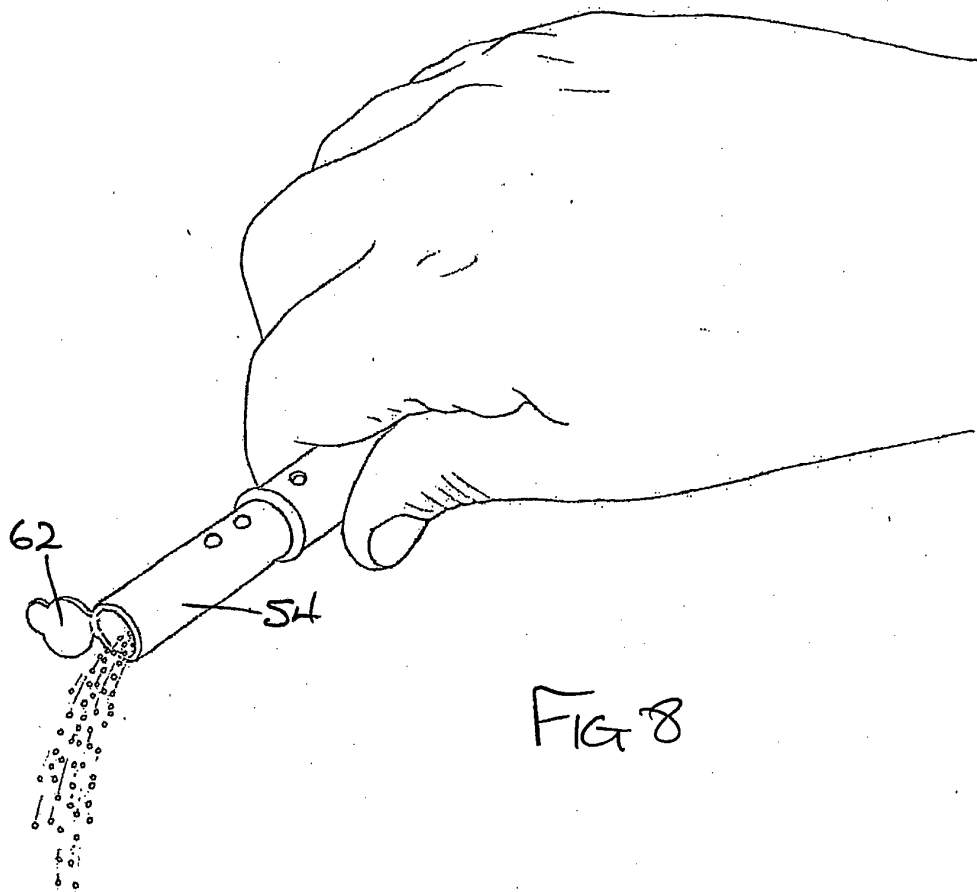


Fig 6







**REFERENCES CITED IN THE DESCRIPTION**

*This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.*

**Patent documents cited in the description**

- GB 2420356 A [0003]