

POURING DEVICE

This invention relates to an improved pouring device and to a container including such a pouring device, and in particular, though not exclusively, to a container for liquid.

- 5 A number of problems exist with presently known pouring devices and with containers incorporating such pouring devices. For example, containers for engine oil usually comprise a screw lid that screws on to a threaded neck of the container. In use, a user removes the lid from the container, positions the neck of the container over the filling point of a vehicle's engine and pours the oil into the
- 10 engine. This type of container suffers from the disadvantage that oil can be spilt from the container before the neck is correctly positioned over the filling point of the engine and while the oil is being poured into the engine. This type of container also suffers from the disadvantage that the rate of flow of oil from the container cannot be easily controlled.
- 15 Furthermore, known containers usually employ pouring devices that comprise two or more separable parts, e.g. a body providing a pouring aperture and a removable lid such as a screw lid. When the removable lid is removed from the pouring device, the lid can be misplaced. Known containers also often require the use of two hands to facilitate pouring.
- 20 It is an object of the present invention to obviate or mitigate one or more of the aforementioned problems in the prior art.

It is a further object of at least one embodiment of the present invention to provide a pouring device which, in use, does not require parts of the device to be remotely separated.

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It is a further object of at least one embodiment of the present invention to provide a container having a pouring device that allows a user to control the rate of flow of fluid or liquid through the pouring device.

5 It is a further object of at least one embodiment of the present invention to provide a container that allows a pouring device of a container containing fluid or liquid to be placed in a non-vertical pouring position, which can be, for example, around 45° to the vertical, above a receiver for the fluid or liquid, before any of the fluid or liquid leaves the container.

10 In particular, it is an object of at least one embodiment of the present invention to provide a container for an engine oil that prevents spillage of the engine oil while the container is being positioned over a filling point of a vehicle's engine and placed in a pouring position.

15 In particular, it is a further object of at least one embodiment of the present invention to provide a container for an engine oil that allows a user of the container to control the rate of flow of oil from the container in order to reduce or prevent spillage when the oil is poured into a vehicle's engine.

20 According to a first aspect of the present invention there is provided a pouring device for a container, the pouring device comprising a first, rear portion and a second, front portion and means for retaining the device in association with a container, wherein in a first non-pouring position the second portion is in sealing engagement with the container, while, in use, depressing of the first portion causes at least part of the second portion to move from the first non-pouring position to a second pouring position.

25 In use the component parts of the pouring device are not remotely separated. This will therefore prevent the component parts of the device from being misplaced.

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A user of a container having the pouring device of the present invention can control the rate of flow of fluid or liquid from the container. Controlling the rate of flow of fluid or liquid from a container will allow a user to reduce or prevent spillage of the fluid or liquid.

- 5 A user of a container having the pouring device of the present invention can also position the container in its non-vertical, pouring position before any fluid or liquid leaves the container. This will therefore allow a user to prevent the fluid or liquid from prematurely leaving the container.

Advantageously a first hinge is provided between the first and second portions.

- 10 A second hinge may also be formed at a rearmost end of the first portion.

The first portion may be of a bent planar form.

The second portion may have a pivot point provided thereupon spaced from the first hinge.

- Thus, in use, depression of the first portion may cause flexure of the first hinge
15 thereby causing the second portion to pivot about the pivot point, the at least part of the second portion thereby being caused to move from the first non-pouring position to the second pouring position.

- Depression of the first portion is preferably achieved by the action of downward pressure of a user's thumb or finger on the first portion, preferably on a
20 thumb-receiving depression on the first portion.

Advantageously the device comprises a first body part which carries the first and second portions and preferably also a second body part which carries means for retaining the device in association with the container.

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The first body part and the second body part preferably form a one-piece component.

The first and second body parts may be retained in association with one another by a third hinge.

- 5 Biasing means may be provided such that, in use, ceasing depression of the first portion causes the biasing means to urge the first and second portions to readopt the first non-pouring position.

The second portion may carry first and second lugs at the pivot point, which lugs are capable of being received within corresponding first and second recesses
10 formed in the second body part.

The second portion may carry sealing means which, when the second portion is in the first position cause a seal to be formed between the device and a pouring aperture.

In a first embodiment the pouring aperture is not formed on the device but is
15 provided on the container.

In a second embodiment the pouring aperture is formed on the second body part.

The sealing means may provide an inverted V-shaped slot at a front most portion thereof.

The device may incorporate an anti-glug device. The anti-glug device is
20 preferably integral with the pouring device.

The second body portion may carry one or more inwardly facing lugs or clips which, in use, co-act with respective apertures or recesses formed in the container to retain the device and container together.

Advantageously the device may provide tamper evident means, for example, frangible tamper evident lugs formed between the first portion or second portion and the second body part, first depression of the first portion causing the lugs to shear. The tamper evident means is preferably clearly visible to a user.

- 5 The device may also provide a frangible transit lock, for example frangible seal(s) between the first and second body parts, which seal(s) is/are broken by depression of the second portion.

The device may also provide a locking mechanism for locking the second, front portion in the non-pouring position. This locking mechanism will prevent leakage
10 from the container when it is in transit or when it is in storage.

The device may be made of a moulded plastics material.

According to a second aspect of the present invention there is provided a container including a pouring device according to the first aspect of the present invention.

- 15 The container may include a handle. The container may include two or more handles.

In use, a user may hold the container with one hand and with a thumb/finger of that hand depress the first portion of the device thereby causing the second portion to move to the second position allowing pouring of contents of the
20 container. The container of the present invention can therefore be used with just one hand.

The container may be adapted for containment of liquids, and particularly viscous liquids.

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The container may be particularly adapted for contaminant of liquid hydrocarbons, for example, oil, and, in particular, engine oil.

According to a third aspect of the present invention there is provided a method of pouring contents from a container, the container including a pouring device

5 according to the first aspect of the present invention, the method comprising:

holding the container with one hand;

depressing the first portion with a thumb/finger of that hand whilst tipping the container so as to pour at least part of the contents of the container;

and

10 releasing the first portion.

Advantageously releasing of the first portion causes the second portion to readopt the first non-pouring position thereby closing the container.

Embodiments of the present invention will now be described by way of example only with reference to the accompanying drawings, which are:

15 Fig. 1 a sectional side view of a first embodiment of a pouring device according to the present invention in an assembled first, non-pouring position fitted to a container;

Fig. 2 a partial sectional top view of the pouring device of Fig. 1;

Fig. 3 a perspective view to one side and above of the pouring device of
20 Fig. 1 in a disassembled position;

Fig. 4 (a) a schematic sectional side view of the pouring device of Fig. 1 in the first, non-pouring position;

Fig. 4 (b) a schematic sectional side view of the pouring device of Fig. 1 in an assembled second, pouring position;

Fig. 5 a partial perspective view to one side and the rear of the pouring device of Fig. 1 in the first position attached to a container;

Fig. 6 a partial perspective view to one side and the rear of the pouring device of Fig. 1 in the second position attached to a container;

5 Fig. 7 a partial perspective view to the other side and the front of the pouring device of Fig. 1 in the second position attached to a container;

Fig. 8 a partial perspective view to one side and the rear of a second embodiment of a pouring device according to the present invention in a first, non-pouring position attached to a container;

10 Fig. 9 a partial perspective view to the other side and the front of the pouring device of Fig. 8 in a second, pouring position attached to a container;

Fig. 10 a partial perspective view to one side and behind of the pouring device of Fig. 8 in the second position attached to a container;

15 Fig. 11 a sectional side view of a third embodiment of a pouring device according to the present invention in an assembled first, non-pouring position;

Fig. 12 a sectional side view of the pouring device of Fig. 11 in an assembled second, pouring position;

20 Fig. 13 a perspective view to one side and above of the pouring device of Fig. 11 in a disassembled position;

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Fig. 14 a perspective view to the other side and below of the pouring device of Fig. 11 in a disassembled position;

Fig. 15 a view from one side of the pouring device of Fig. 11 in the first position; and

5 Fig. 16 a perspective view from one side above and to the rear of the pouring device of Fig. 11 in the first position;

Referring firstly to Figs. 1 to 7 there is illustrated a first embodiment of a pouring device, generally designated 5a, according to the present invention attached to a container 10a. The pouring device 5a comprises a first, rear portion 15a and a
10 second, front portion 20a and a means for retaining the device 5a in association with the container 10a, wherein, in a first non-pouring position A the second portion 20a is in sealing engagement with the container 10a while, in use, depressing of the first portion 15a causes at least part of the second portion 20a to move from the first position A to a second pouring position B.

15 A first living hinge 25a is provided between the first and second portions 15a, 20a. Further a second living hinge 30a is formed at a rearmost end of the first portion 15a. The first portion 15a is of an angled (arcuate) planar form, while the second portion 20a has a pivot point 35a provided thereupon spaced from the first hinge 25a.

20 Thus, in use, depression of the first portion 15a causes flexure of the first hinge 25a, thereby causing the second portion 20a to pivot about the pivot point 35a, the at least part of the second portion 35a thereby being caused to move from the first non-pouring position A to the second pouring position B.

In this embodiment the device 5a comprises a first body part 40a which carries the
25 first and second portions 15a, 20a and also a second body part 45a which carries the means for retaining the device 5a in association with the container 10a. The

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first and second body parts 40a, 45a, are retained in association with one another by a third hinge 50a.

Biassing means in the form of a moulded spring 55a are provided such that, in use, ceasing depression of the first portion 15a causes the spring 55a to urge the first
5 and second portions 15a, 20a to readopt the first non-pouring position A.

The second portion 20a carries first and second lugs 60a, 65a at the pivot point 35a, which lugs 60a, 65a are capable of being received within corresponding first and second recesses 70a, 75a formed in the second body part 45a.

Further the second portion 20a carried sealing means 80a which, when the
10 second portion 20a is in the first position A cause a seal to be formed between the device 5a and a pouring aperture 85a. In this embodiment the pouring aperture 85a is not formed on the device 5a but is provided on the container 10a. However, it should be appreciated that in a modification, such as in the embodiment shown in Figs. 11 to 16, the pouring aperture 85a may be formed on
15 the second body part 45a.

In the first embodiment the sealing means 80a are in the form of a frusto-cylindrical body providing an inverted V-shaped slot 90a at a front most portion thereof.

The second body part 45a carries a plurality of inwardly facing lugs or clips 95a
20 which, in use, co-act with respective aperture or recesses 100a formed in the container 10a to retain device 5a and container 10a together.

The device 5a provides tamper evident means, comprising frangible tamper evident lugs 105a formed between the first portion 15a (or second portion 20a) and the second body part 45a, first depression of the first portion 15a causing the
25 tamper evident lugs 105a to shear.

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The device 5a further provides a frangible transit lock comprising frangible seal(s) 110a between the first and second body parts 40a, 45a, which seal(s) 110a is/are broken by depression of the second portion 20a.

The device 5a may be made in one piece of a suitable moulded plastics material.

- 5 In use, a user may hold the container 10a with one hand by means of a handle 115a and with a thumb/finger of that hand depress the first portion 15a of the device 5a thereby causing the second portion 20a to move to the second position B, allowing pouring of contents of the container 10a.

- 10 Due to provision of spring 55a releasing of the first portion 15a causes the second portion 20a to readopt the first non-pouring position A thereby closing the container 10a.

- Referring now to Figs. 8 to 10 there is illustrated a second embodiment of a pouring device 5b according to the present invention attached to a container 10b. Parts of the device 5b are identified by the same numerals as employed in the device 5a of the first embodiment but suffixed with 'b' rather than 'a'.

The device 5b provides a tamper evident band 120c on the second portion 20b and second body part 45b, which when the device 5b is used for the first time breaks but is retrained on the second portion 20b.

- 20 Finally, referring to Figs. 11 to 16 there is illustrated a third embodiment of a pouring device 5c according to the present invention attached to a container 10c. Parts of the device 5c are identified by the same numerals as employed in the device 5a of the first embodiment but suffixed with 'c' rather than 'a'.

- 25 The device 5c is similar to the device 5a in many respects. However, the device 5c provides an alternative form of moulded spring 55c, and further provides a pouring aperture 85c integrally formed on the second body part 45c.

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It should be appreciated that the embodiments of the invention hereinbefore described are given by way of example only and are not meant to limit the scope of the invention in any way.

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Claims

1. A pouring device for a container, the pouring device comprising a first, rear portion and a second, front portion and means for retaining the device in association with a container, wherein in a first non-pouring position the second
5 portion is in sealing engagement with the container, while, in use, depressing of the first portion causes at least part of the second portion to move from the first non-pouring position to a second pouring position.
2. The pouring device as claimed in claim 1, wherein a first hinge is provided between the first and second portions.
- 10 3. The pouring device as claimed in claims 1 or 2, wherein a second hinge is formed at a rearmost end of the first portion.
4. The pouring device as claimed in any one of the preceding claims, wherein the first portion is a bent planar form.
5. The pouring device as claimed in any one of claims 2-4, wherein the
15 second portion has a pivot point provided thereupon spaced from the first hinge.
6. The pouring device as claimed in any one of the preceding claims, wherein the first portion has a thumb- or finger-receiving depression.
7. The pouring device as claimed in any one of the preceding claims, wherein the device comprises a first body part which carries the first and second portions
20 and preferably also a second body part which carries means for retaining the device in association with the container.
8. The pouring device as claimed in claim 7, wherein the first and second body parts may be retained in association with one another by a third hinge.



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9. The pouring device as claimed in any one of the preceding claims, wherein biasing means are provided such that, in use, ceasing depression of the first portion causes the biasing means to urge the first and second portions to readopt the first non-pouring position.

5 10. The pouring device as claimed in any one of claims 7-9, wherein the second portion carries first and second lugs at the pivot point, which lugs are capable of being received within corresponding first and second recesses formed in the second body part.

11. The pouring device as claimed in any one of claims 7-10, wherein the
10 second portion carries sealing means which, when the second portion is in the first position, cause a seal to be formed between the device and a pouring aperture.

12. The pouring device as claimed in any one of claims 7-11, wherein a pouring aperture is formed on the second body part.

13 The pouring device as claimed in claim 11, wherein the sealing means
15 provides an inverted V-shaped slot at a front most portion thereof.

14. The pouring device as claimed in any one of the preceding claims, wherein the device further includes an anti-glug device; the anti-glug device preferably being integral with the pouring device.

15. The pouring device as claimed in any one of claims 7-14, wherein the
20 second body portion carries one or more inwardly facing lugs or clips which, in use, co-act with respective apertures or recesses formed in a container to retain the device and container together.

16. The pouring device as claimed in any one of the preceding claims, wherein the pouring device further includes tamper evident means.



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17. The pouring device as claimed in claim 16, wherein the tamper evident means comprises frangible tamper evident lugs formed between the first portion or second portion and the second body part, first depression of the first portion causing the lugs to shear.
- 5 18. The pouring device as claimed in any one of the preceding claims, wherein the device further comprises a frangible transit lock.
19. The pouring device as claimed in claim 18, wherein the frangible transit lock is at least one frangible seal between the first and second body parts, which seal is broken by depression of the second portion.
- 10 20. The pouring device as claimed in any one of the preceding claims, wherein the device is made of a moulded plastics material.
21. A container including the pouring device as claimed in any one of claims 1-20.
22. The container claimed in claim 21, the container comprising an integral
15 handle.
23. The container as claimed in claims 21 or 22, wherein a pouring aperture is provided on the container.
24. The container as claimed in claims 21, 22 or 23, wherein the container can be used with just one hand.
- 20 25. The container as claimed in any one of claims 21-24, wherein the container is suitable for liquids or fluids, and particularly viscous liquids or fluids.
26. The container as claimed in claim 25, wherein the liquid is a liquid hydrocarbon.



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27. The container as claimed in claim 26, wherein the liquid hydrocarbon is an engine oil.

28. A method of pouring contents from the container claimed in any one of claims 21-27, the method comprising:

- 5 holding the container with one hand;
 depressing the first portion with a thumb/finger of that hand whilst tipping the container so as to pour at least part of the contents of the container;
 and
 releasing the first portion.

- 10 29. The method claimed in claim 28, wherein releasing of the first portion causes the second portion to readopt the first non-pouring position, thereby closing the container.



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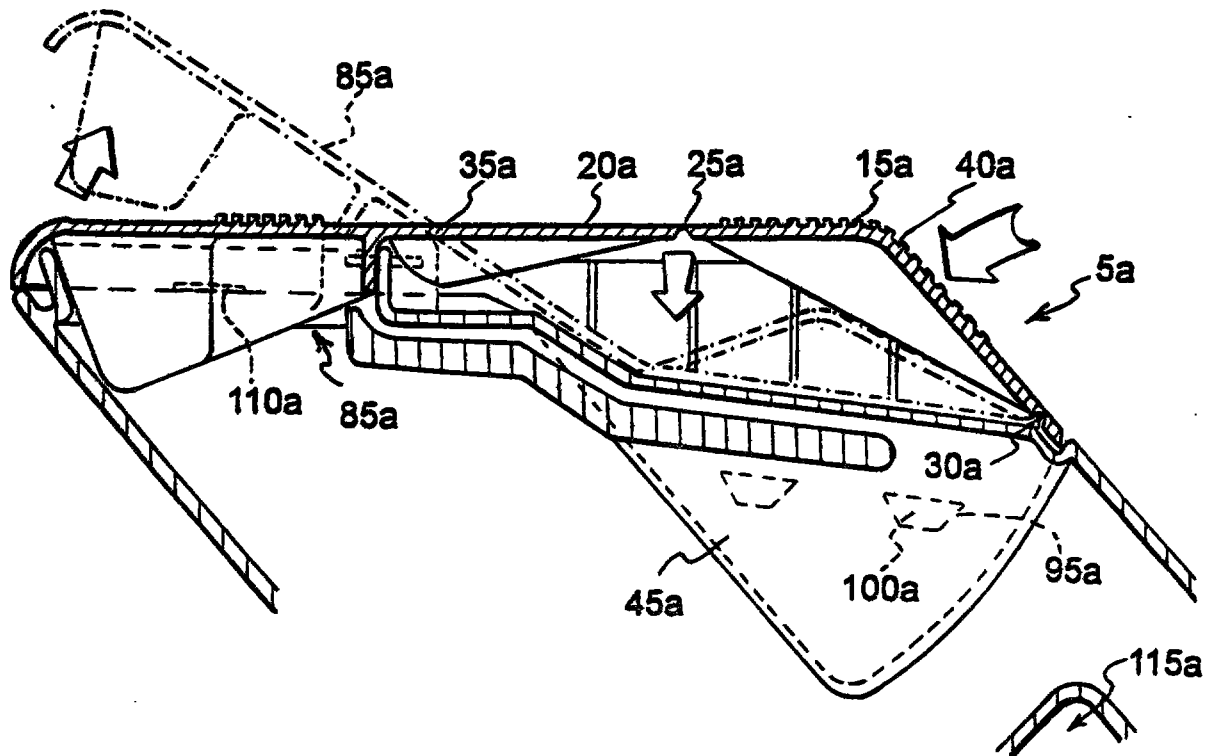


FIG 1

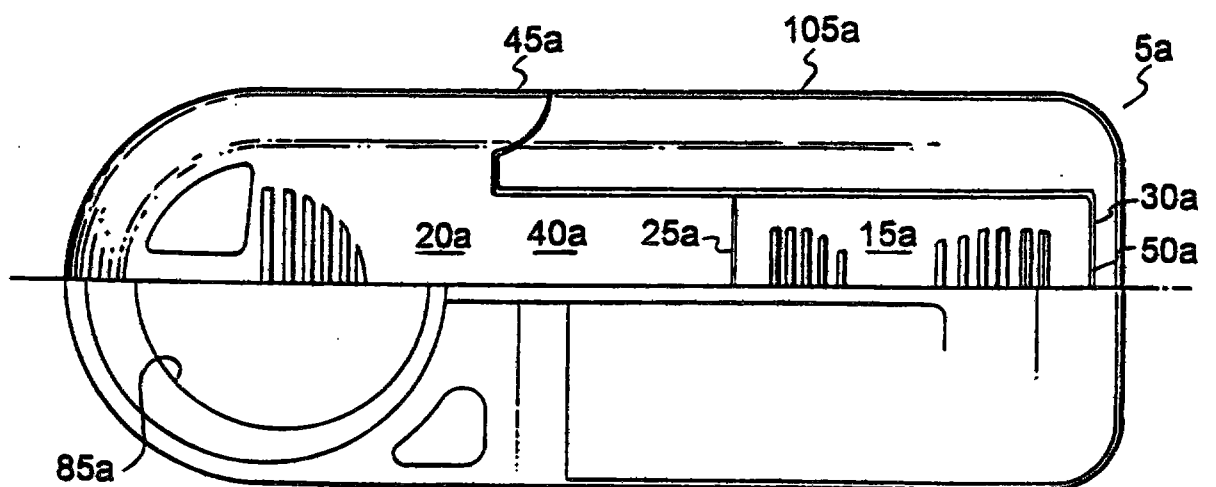
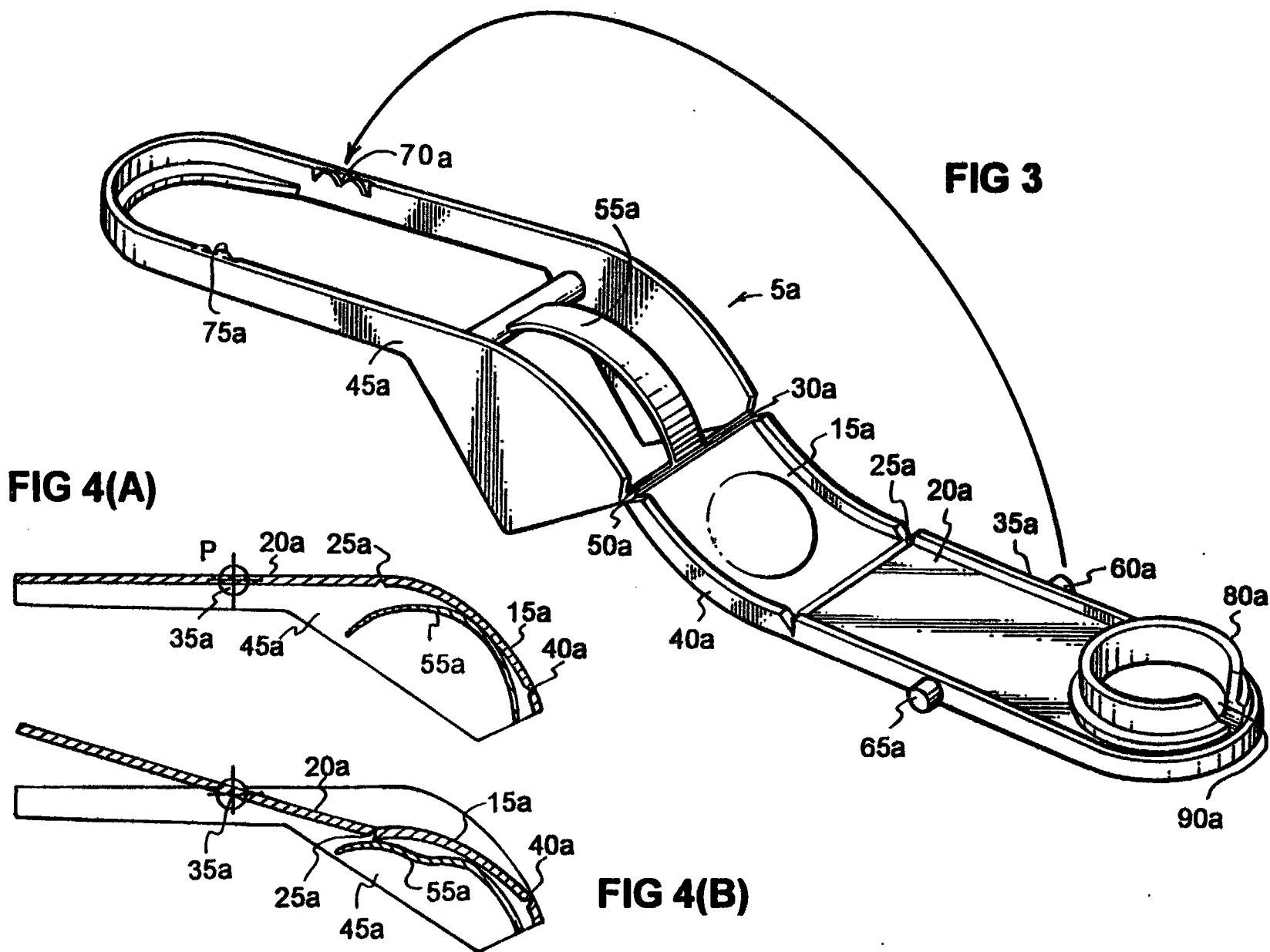
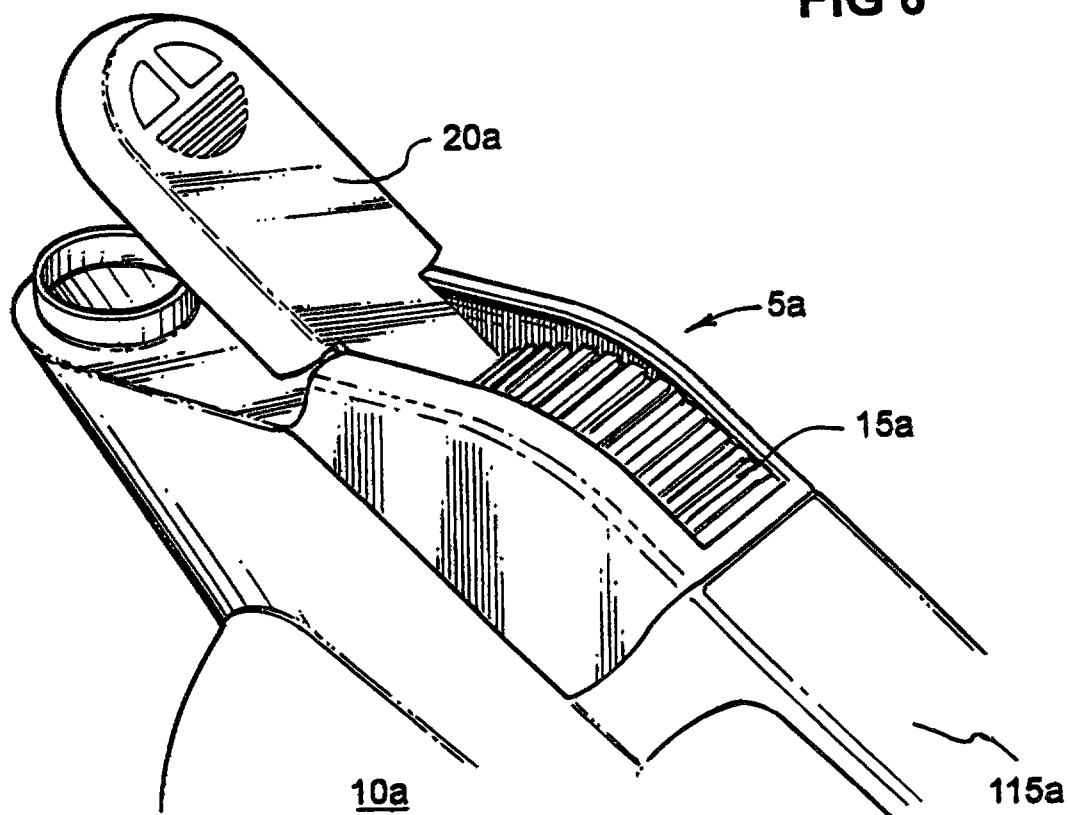
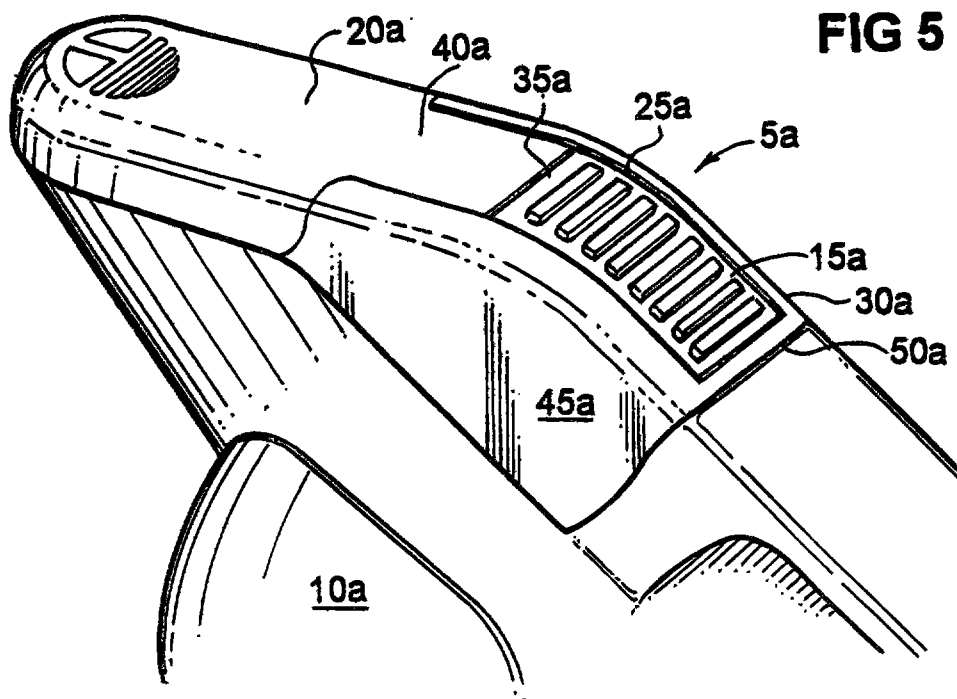


FIG 2



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FIG 7

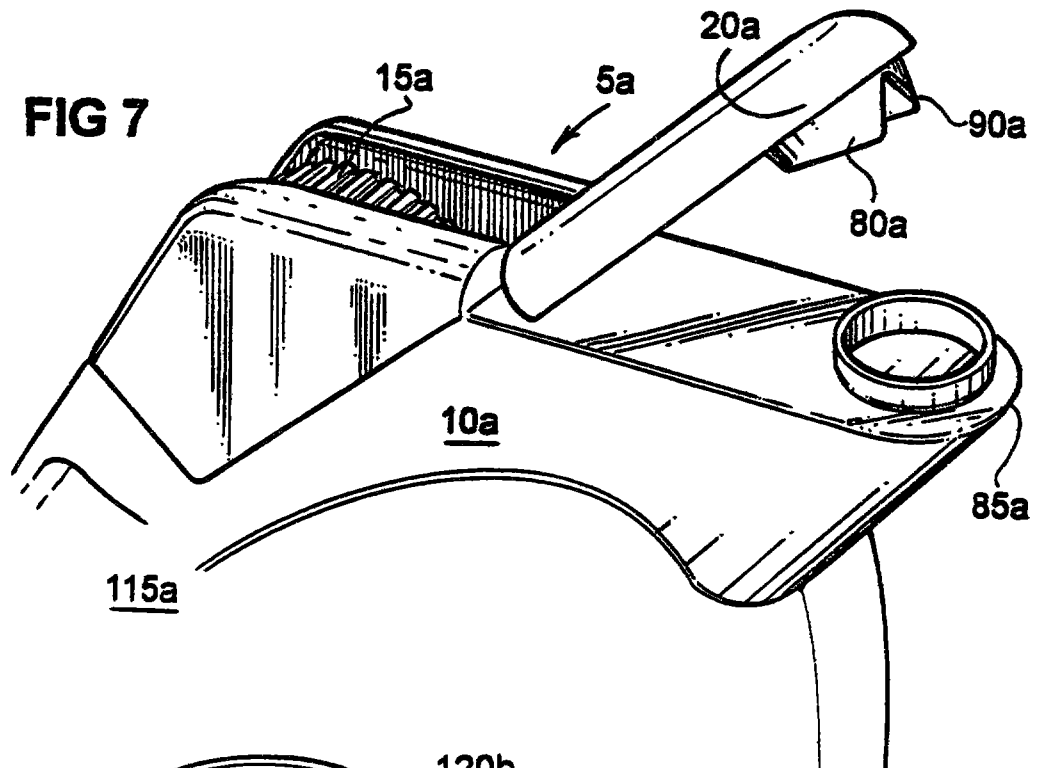


FIG 8

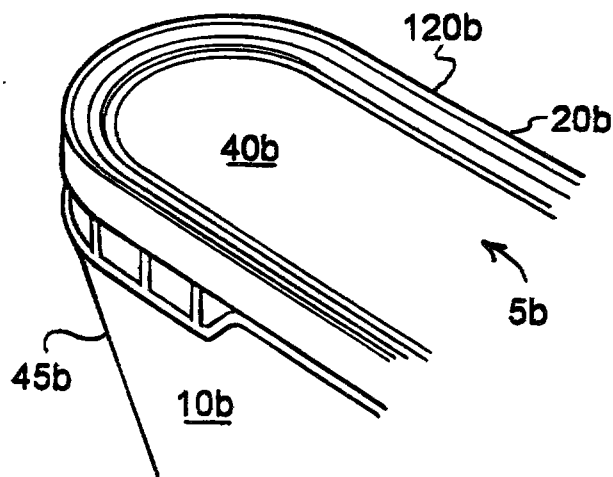
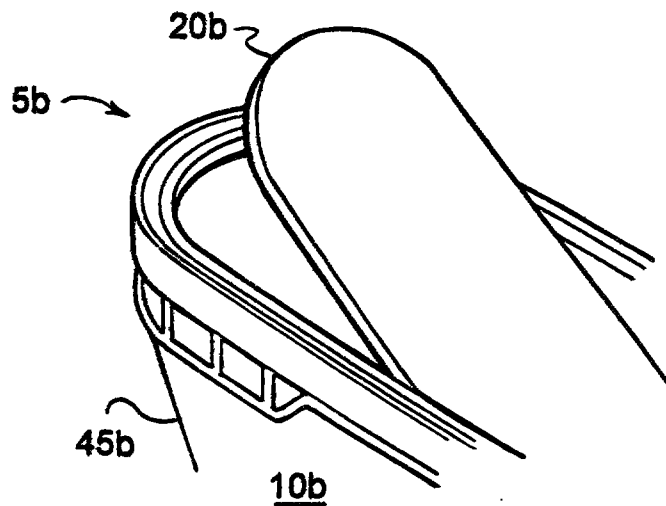


FIG 10



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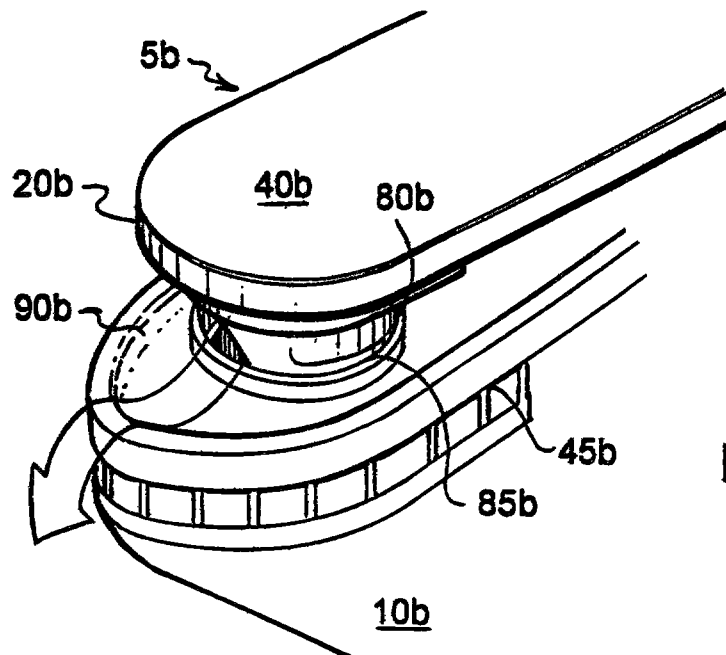


FIG 9

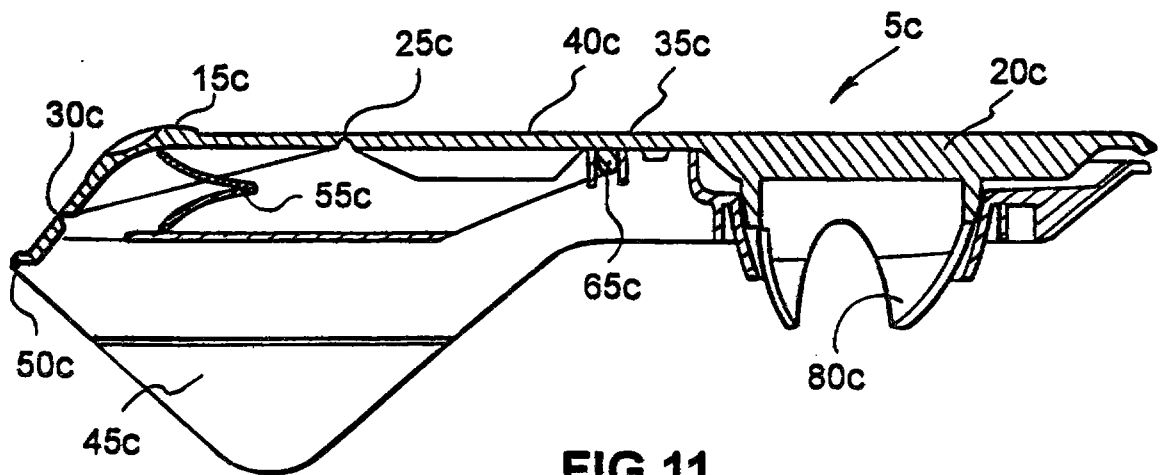


FIG 11

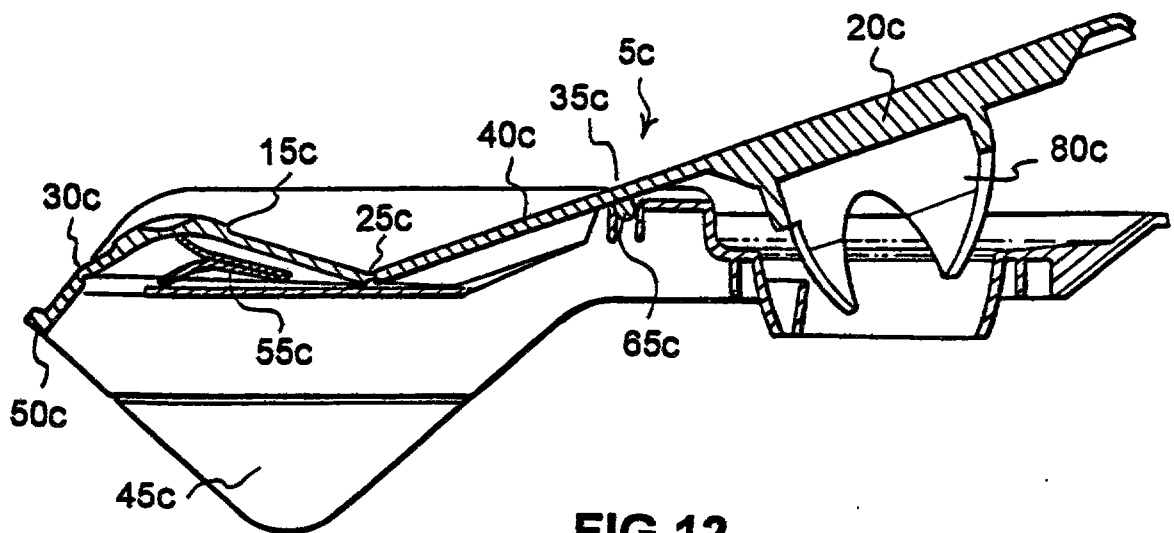


FIG 12

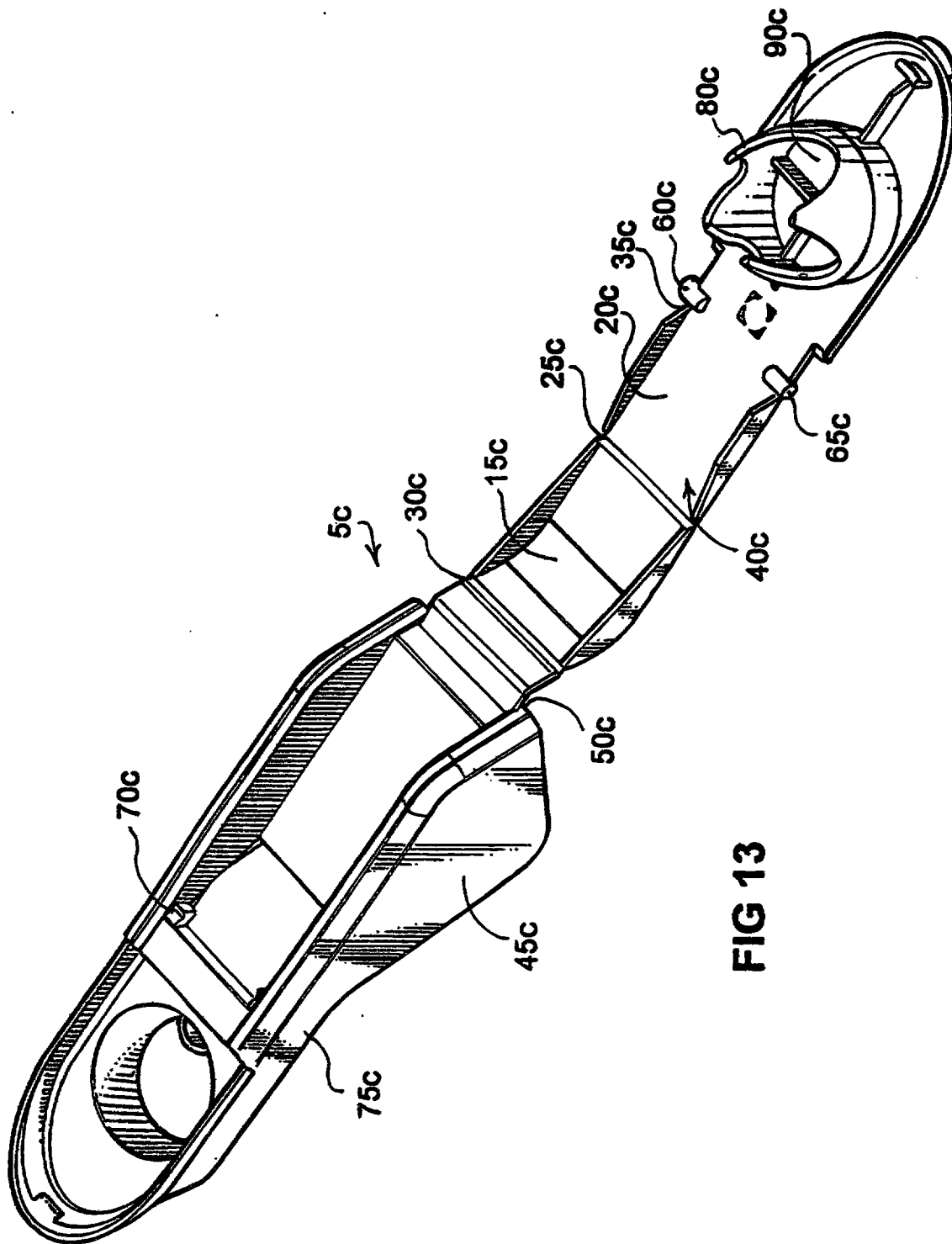
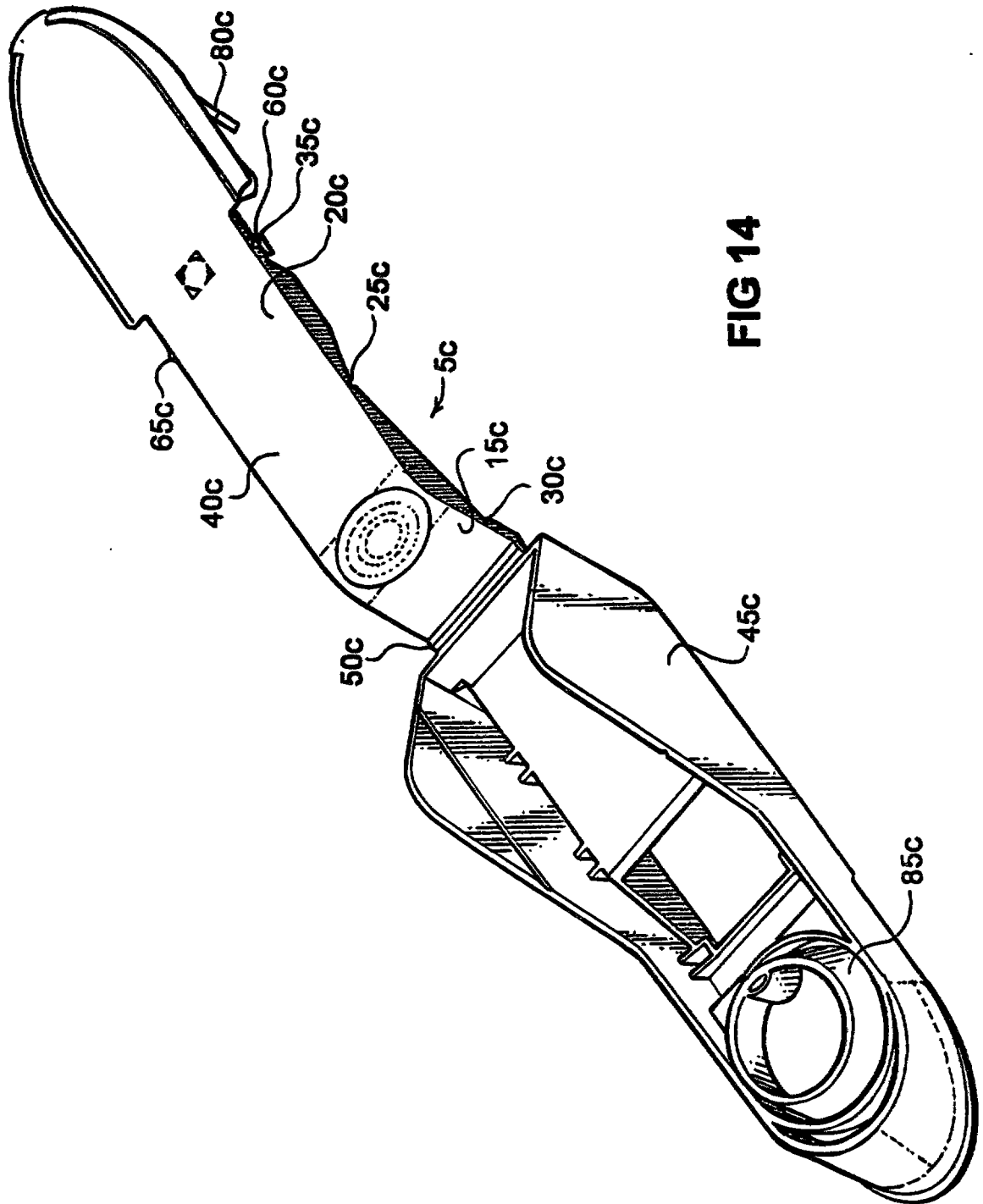
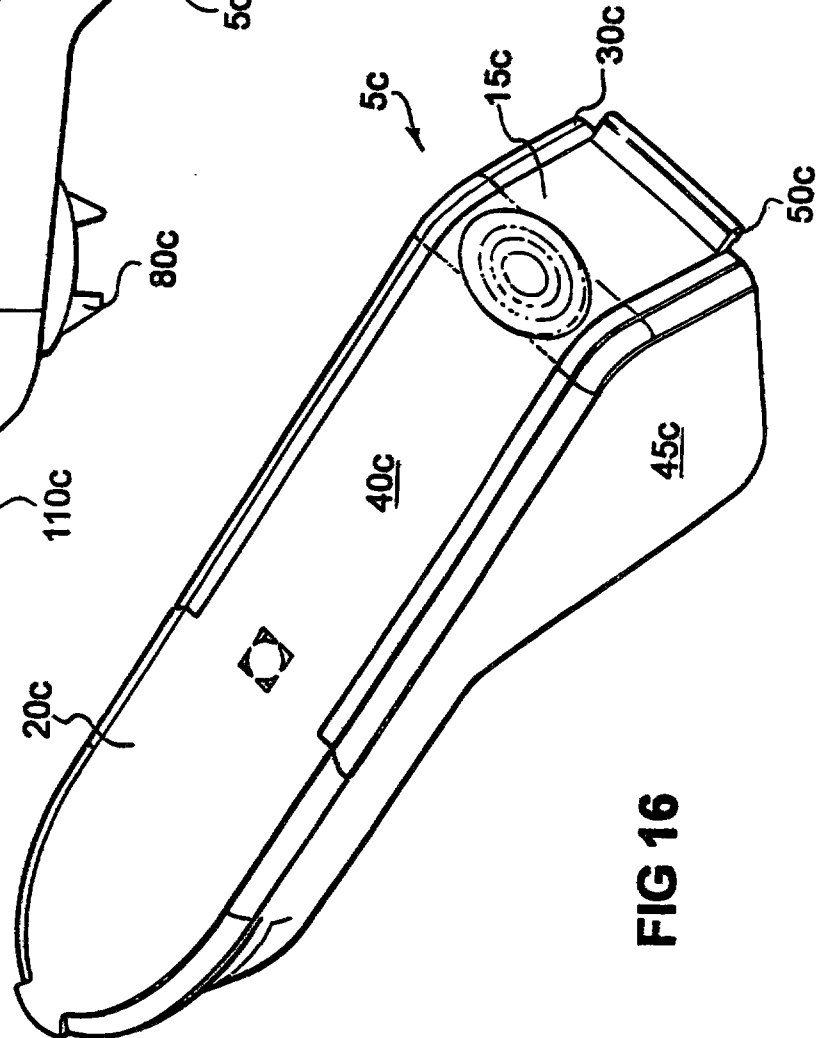
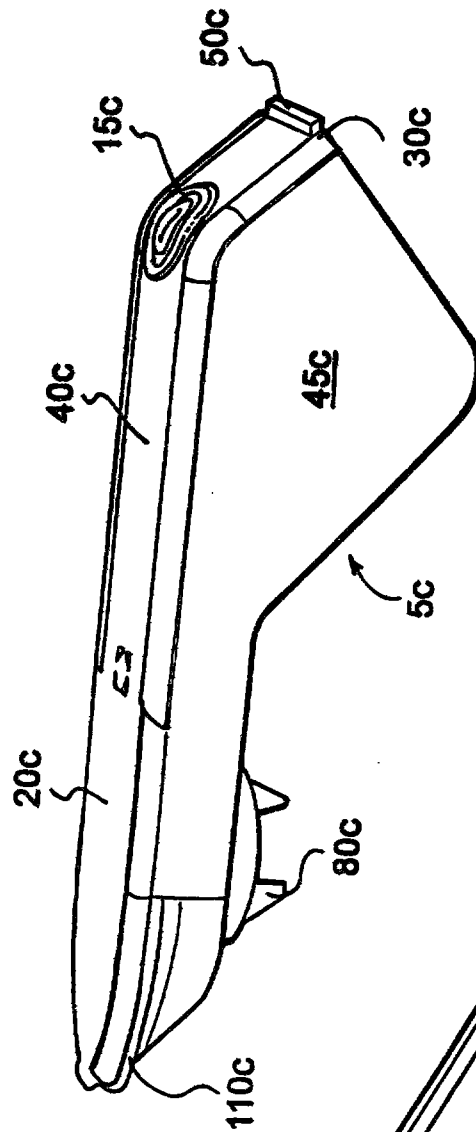


FIG 13





Claims

1. A pouring device for a container that is suitable for liquids or fluids, the pouring device comprising a first rear portion, a second front portion, means for retaining the device in association with the container, and biasing means; wherein in a first non-pouring position the second portion is in sealing engagement with the container, while, in use, depressing of the first portion causes at least part of the second portion to move from the first non-pouring position to a second pouring position; and ceasing depression of the first portion causes the biasing means to urge the first and second portions to readopt the first non-pouring position.
2. The pouring device as claimed in claim 1, wherein a first hinge is provided between the first and second portions.
3. The pouring device as claimed in claims 1 or 2, wherein a second hinge is formed at a rearmost end of the first portion.
4. The pouring device as claimed in any one of the preceding claims, wherein the first portion is a bent planar form.
5. The pouring device as claimed in any one of claims 2-4, wherein the second portion has a pivot point provided thereupon spaced from the first hinge.
6. The pouring device as claimed in any one of the preceding claims, wherein the first portion has a thumb- or finger-receiving depression.
7. The pouring device as claimed in any one of the preceding claims, wherein the device comprises a first body part which carries the first and second portions and preferably also a second body part which carries means for retaining the device in association with the container.
8. The pouring device as claimed in claim 7, wherein the first and second body parts may be retained in association with one another by a third hinge.

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9. The pouring device as claimed in any one of claims 7 or 8, wherein the second portion carries first and second lugs at the pivot point, which lugs are capable of being received within corresponding first and second recesses formed in the second body part.
10. The pouring device as claimed in any one of claims 7-9, wherein the second portion carries sealing means which, when the second portion is in the first position, cause a seal to be formed between the device and a pouring aperture.
11. The pouring device as claimed in any one of claims 7-10, wherein a pouring aperture is formed on the second body part.
12. The pouring device as claimed in claim 10, wherein the sealing means provides an inverted V-shaped slot at a front most portion thereof.
13. The pouring device as claimed in any one of the preceding claims, wherein the device further includes an anti-glug device; the anti-glug device preferably being integral with the pouring device.
14. The pouring device as claimed in any one of claims 7-13, wherein the second body portion carries one or more inwardly facing lugs or clips which, in use, co-act with respective apertures or recesses formed in a container to retain the device and container together.
15. The pouring device as claimed in any one of the preceding claims, wherein the pouring device further includes tamper evident means.
16. The pouring device as claimed in claim 15, wherein the tamper evident means comprises frangible tamper evident lugs formed between the first portion or second portion and the second body part, first depression of the first portion causing the lugs to shear.



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17. The pouring device as claimed in any one of the preceding claims, wherein the device further comprises a frangible transit lock.
18. The pouring device as claimed in claim 17, wherein the frangible transit lock is at least one frangible seal between the first and second body parts, which seal is broken by depression of the second portion.
19. The pouring device as claimed in any one of the preceding claims, wherein the device is made of a moulded plastics material.
20. A container including the pouring device as claimed in any one of claims 1-19.
21. The container claimed in claim 20, the container comprising an integral handle.
22. The container as claimed in claims 20 or 21, wherein a pouring aperture is provided on the container.
23. The container as claimed in claims 20, 21 or 22, wherein the container can be used with just one hand.
24. The container as claimed in an one of the preceding claims, wherein the container is suitable for viscous liquids or fluids.
25. The container as claimed in claim 24, wherein the liquid is a liquid hydrocarbon.
26. The container as claimed in claim 25, wherein the liquid hydrocarbon is an engine oil.
27. A method of pouring contents from the container claimed in any one of claims 20-26, the method comprising:



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holding the container with one hand;
depressing the first portion with a thumb/finger of that hand whilst tipping the container so as to pour at least part of the contents of the container; and
releasing the first portion.

28. The method claimed in claim 27, wherein releasing of the first portion causes the second portion to readopt the first non-pouring position, thereby closing the container.



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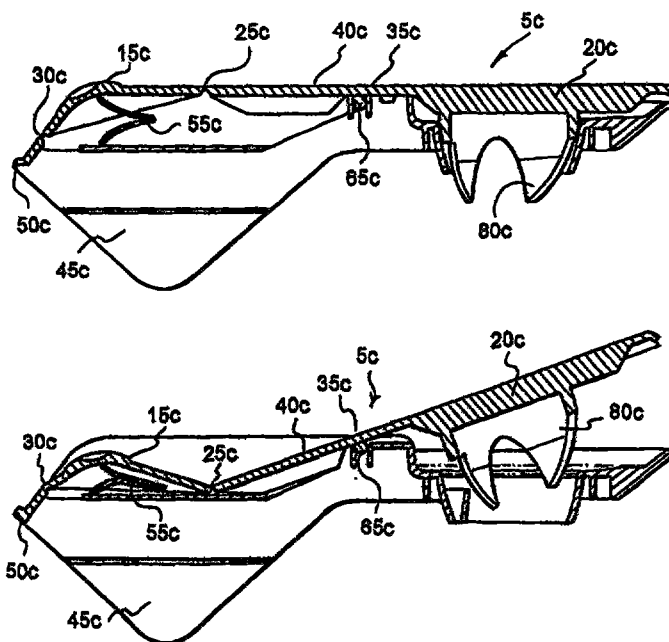
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(21) International Application Number: PCT/GB98/02567 ✓ (22) International Filing Date: 26 August 1998 (26.08.98) ✓ (30) Priority Data: ① 9718662.1 ✓ 4 September 1997 (04.09.97) ✓ GB ✓ (71) Applicant (for all designated States except US): CASTROL LIMITED [GB/GB]; Burmah Castrol House, Pipers Way, Swindon, Wiltshire SN3 1RE (GB). ✓ (72) Inventor; and (75) Inventor/Applicant (for US only): ALLEN, Michael [GB/GB]; 106 Overbrook, Eldene, Swindon, Wiltshire SN3 6AT (GB). ✓ (74) Agent: LEWIS, Pauline, Therese; Burmah Castrol Trading Limited, Group Patents Dept., Burmah Castrol House, Pipers Way, Swindon, Wiltshire SN3 1RE (GB).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. ✓ 1 PD. 1 app/2 1 inv. IPC : B65D 47/08 IPER 18/3/99

(54) Title: POURING DEVICE ✓



(57) Abstract

A pouring device for a container, the pouring device (5) comprising a first, rear portion (15a) and a second, front portion (20a) and means for retaining the device in association with a container, wherein in a first non-pouring position the second portion is in sealing engagement with the container, while, in use, depressing of the first portion causes at least part of the second portion to move from the first non-pouring position to a second pouring position. Releasing the first portion causes the second portion to readopt the first non-pouring position. The pouring device is preferably used for pouring oil into a vehicle's engine. The device includes tamper evident means. The pouring device can be used to control the rate of flow of oil from a container.