



New connection on: : 26-02-2018 : 21:52:57 - Last disconnection on: : 23-02-2018 : 06:45:47

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

Welcome to EPOQUE Rebuild under the Production Environment

[No database/cluster active] ..fi

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 Database: EPODOC

[EPODOC: SS 1] TOPPER AND VALVE AND BOTTLE AND WATER

Results in EPODOC 0

[SS 2] TOPPER AND VALVE AND BOTTLE

Results in EPODOC 0

[SS 3] top and valve and bottle

Results in EPODOC 3.918

[SS 4] cap and bottle and valve

Results in EPODOC 3.261

[SS 5] 3 and 4

Results in EPODOC 718

[SS 6] /ic B65D41/32

Results in EPODOC 7.060

[SS 7] 5 and 6

Results in EPODOC 11

[SS 8] ..li



1/11 © EPODOC / EPO

PN - [MXPA06010858](#) A 20070725

PR - GB20040006630 20040324; WO2005GB01109 20050324
AP - MX2006PA10858 20050324
DT - I
CCI - [B65D41/0407](#) ; [B65D41/0414](#) ; [B65D41/045](#) ; [B65D41/325](#)
PA - BAPCO CLOSURES RES LTD [GB]
TI - CLOSURE WITH INTEGRAL GAS BARRIER.
AB - A **cap** (2) suitable for use with a PET beverage **bottle** has an integral gas barrier provided by a plastics-coated aluminium foil disc (30) having its peripheral edge (32) embedded into the plastics internal or external surface (40) of a **top** panel (4) of the **cap** or of a **valve** (20). A plastics component (28) from which the **cap** (2) can be produced is described. The component (28) has a recess (48) defined by a sacrificial wall (50) formed inwardly of a resealing **valve** (20).

2/11 © EPODOC / EPO

PN - [US2008035600](#) A1 20080214
PR - GB20040006630 20040324; WO2005GB01109 20050324
AP - US20050599249 20050324
DT - **
CT - || R141 (A1)
[US6508375](#) B1 [];
[US4813561](#) A [];
[US2003057175](#) A1 [];
[US4658976](#) A [];
[US7021478](#) B1 [];
[US2003098286](#) A1 [];
[US4094460](#) A [];
[US6241111](#) B1 [];
[US6399170](#) B1 [];
[US4684554](#) A [];
[US6095359](#) A [];
[US2005173370](#) A1 [];
[US4774134](#) A [];
[US2003178385](#) A1 [];
[US4782968](#) A [];
[US5685443](#) A [];
[US3223269](#) A []
CCI - [B65D41/0407](#) ; [B65D41/0414](#) ; [B65D41/045](#) ; [B65D41/325](#)
PA - BAPCO CLOSURES RES LTD [GB]
TI - Closure with Integral Gas Barrier
AB - A **cap** (2) suitable for use with a PET beverage **bottle** has an integral gas barrier provided by a plastics-coated aluminium foil disc (30) having its peripheral edge (32) embedded into the plastics internal or external surface (40) of a **top** panel (4) of the **cap** or of a **valve** (20). A plastics component (28) from which the **cap** (2) can be produced is described. The component (28) has a recess (48) defined by a sacrificial wall (50) formed inwardly of a resealing **valve** (20).

3/11 © EPODOC / EPO

PN - [US5456294](#) A 19951010

PR - US19930013778
19930205; US19940218053
19940325

AP - US19940218053 19940325

DT - *

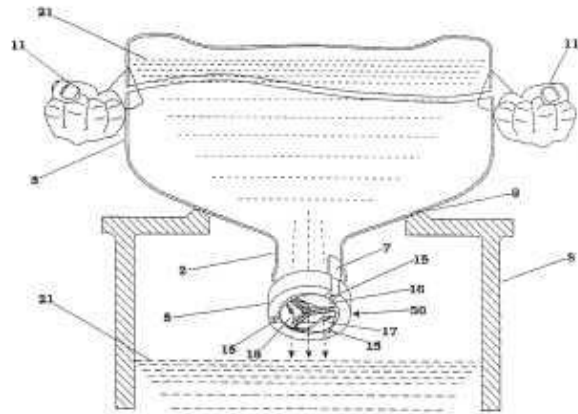
CT - [US2084529](#) A []; [US2605939](#)
A [];
[US3456650](#) A []; [US3622041](#)
A [];
[US3754690](#) A []; [US4747522](#)
A [];
[US4754898](#) A []; [US5228603](#)
A [];
[US5297703](#) A []

CCI - [B65D41/32](#) ; [B65D47/00](#)

PA - INNOSTAR INC [US]

TI - Nonspill bottled water
replacement system with a
shielded disposable **cap**

AB - A **bottle cap** having a **valve**
which provides a water tight
seal to prevent spillage when
a water **bottle** is inverted for
installation onto a water
dispenser, but which can be
opened after the water **bottle**
is installed by generating a
hydraulic shock wave within
the **bottle** to open the **valve**. A
first embodiment has a
triple **valve** seal with
mechanical interference
between the **valve** pieces to
create an initially water tight
seal. A second embodiment
employs a dual **valve**
structure. A third embodiment
employs a single **valve**
structure. In the first three
embodiments, the valves are
pivotally attached to the **valve**
body by flexible living hinges.
A fourth embodiment has a
single linearly sliding **valve**.
Three methods are presented
for generating the hydraulic
shock wave to open the **valve**.
In the first method, the
water **bottle** is positioned
just above the water



dispenser and lowered rapidly. In the second method, the **bottle** is placed on the dispenser and tipped so that one shoulder of the **bottle** is just above the **top** opening of the dispenser, then the **bottle** is allowed to settle back into place. These two methods create an inertial shock wave when the **bottle** comes to rest. In the third method, the **bottle** is placed on the dispenser with the seal intact, and the user strikes the **top** or the sides of the water **bottle** to create the hydraulic shock wave.

4/11 © EPODOC / EPO

PN - [IE990682](#) A1 20000322

PR - IE19990000682
19990809; IE1998S000660
19980807

AP - IE19990000682 19990809

DT - I

PA - RUSTSUN LTD [IE]

TI - A tamper evident **cap**

AB - A tamper evident plastics **cap**
(1) for a discharge **valve** on a pressurised fuel gas **bottle** has a cylindrical side wall (2) terminating in a domed **top** wall (3) at an upper end of the side wall (2). A circumferential ridge (7) is provided on an inner face of the side wall (2) for snap engagement within a complementary circumferential groove on an outer wall of the gas **bottle** discharge **valve** to retain the **cap** (1) on the gas **bottle**. The side wall (2) incorporates a tear-away strip which extends upwardly from a bottom edge of the side wall (2) and can be torn away for gripping a ring pull (5). A tamper evident skirt (6) is



mounted at the bottom edge of the side wall (2). The skirt (6) will readily break away from the side wall (2) in the event of attempted removal of the **cap** (1) from the gas **bottle** discharge **valve**. <Figure 3>

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PN - [IES980660](#) A2 20000322
 PR - IE1998S000660 19980807
 AP - IE1998S000660 19980807
 DT - I
 PA - RUSTSUN LTD [IE]
 TI - A tamper evident **cap**
 AB - A tamper evident plastics **cap** (1) for a discharge **valve** on a pressurised fuel gas **bottle** has a cylindrical side wall (2) terminating in a domed **top** wall (3) at an upper end of the side wall (2). A circumferential ridge (7) is provided on an inner face of the side wall (2) for snap engagement within a complementary circumferential groove on an outer wall of the gas **bottle** discharge **valve** to retain the **cap** (1) on the gas **bottle**. The side wall (2) incorporates a tear-away strip which extends upwardly from a bottom edge of the side wall (2) and can be torn away by gripping a ring pull (5). A tamper evident skirt (6) is mounted at the bottom edge of the side wall (2). The skirt (6) will readily break away from the side wall (2) in the event of attempted removal of the **cap** (1) from the gas **bottle** discharge **valve**. <Figure 3>

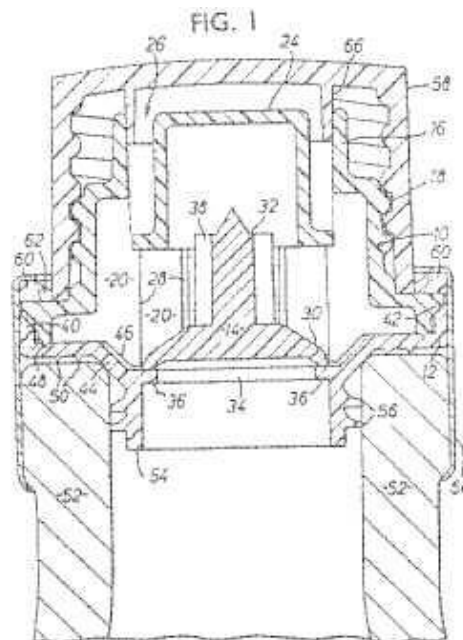
6/11 © EPODOC / EPO

PN - [WO2005092728](#) A1 20051006
 PR - GB20040006630 20040324
 AP - WO2005GB01109 20050324
 DT - *; Rep
 CT - |EP| ISR (A1)
[US5685443](#) A 19971111 [XA] (TABER JAMES [US], et al)
 [X] 1,2,5,15,17-20
 * column 4, line 55 - line 60 *
 * column 5, line 23 - line 61 *
 * column 6, line 4 - line 13 *
 * column 7, line 47 - column 8, line 41 *
 * column 9, line 28 - column 11, line 9; figures 4-6,11-14,21,23,24,26 *
 [A] 3,4,8,23-25;
[US4774134](#) A 19880927 [XAY] (KEHE ALFRED W [US], et al)
 [X] 1,15,17,18
 * the whole document *
 [A] 14
 [Y] 6,16;
[DE10040048](#) A1 20020221 [A] (WEIS KG [DE])
 [A] 1
 * the whole document *;
[FR2837173](#) A1 20030919 [A] (TETRA LAVAL HOLDINGS & FINANCE [CH])

- [A] 4,6,13,20,21
 * page 3, line 7 - line 20 *
 * page 4, line 8 - page 6, line 4; figure - *;
[FR2828172](#) A1 20030207 [YA] (RICAL SA [FR])
 [Y] 6,16
 * page 6, line 15 - page 9, line 27; figure - *
 [A] 7-9;
[US3223269](#) A 19651214 [XA] (WILLIAMS HAROLD W)
 [X] 14
 * column 4, line 17 - line 22; figure 7 *
 [A] 10-13;
[FR2705646](#) A1 19941202 [A] (AIRSEC IND SA [FR])
 [A] 10-14
 * page 4, line 17 - line 26; figure 3 *;
[US6095359](#) A 20000801 [A] (RICHMOND THOMAS MICHAEL [US])
 [A] 1
 * column 2, line 18 - column 3, line 12; figure - *
- CCI - [B65D41/0407](#) ; [B65D41/0414](#) ; [B65D41/045](#) ; [B65D41/325](#)
- PA - SPRECKELSEN MCGEOUGH LTD [GB]; MCGEOUGH PETER MICHAEL [IE]; VON SPRECKELSEN HENNING [GB]
- TI - CLOSURE WITH INTEGRAL GAS BARRIER
- AB - A **cap** (2) suitable for use with a PET beverage **bottle** has an integral gas barrier provided by a plastics-coated aluminium foil disc (30) having its peripheral edge (32) embedded into the plastics internal or external surface (40) of a **top** panel (4) of the **cap** or of a **valve** (20). A plastics component (28) from which the **cap** (2) can be produced is described. The component (28) has a recess (48) defined by a sacrificial wall (50) formed inwardly of a resealing **valve** (20).

7/11 © EPODOC / EPO

- PN - [GB1307462](#) A 19730221
- PR - GB19710008045 19710329
- AP - GBD1307462 19710329
- DT - *
- CCI - [B65D49/02](#)
- PA - NR FITMENTS LTD
- TI - NON-REFILLABLE FITMENT
- AB - 1307462 Non-refillable **bottle** stoppers; container closures N R FITMENTS Ltd 7 Jan 1972 [29 March 1971 24 June 1971] 8045/71 and 29679/71 Headings B8D and B8T A non-refillable **bottle** stopper comprises a polythene housing lower member 12 having a **valve** seat 36 defining a flow aperture 34, a polystyrene **valve** member 14 having a head 30 and an



upstanding stem 32, and a polystyrene housing upper member 10 having inwardly extending radial ribs 20, which form a **valve** member guide cage and support a **cap** 24 above the **valve** member level with the **top** of the upper member to define an annular **top** pouring orifice 26. The upper and lower housing members are secured to a **bottle** by an aluminium sleeve 64, which also embraces the rim 60 of a polypropylene screw-threaded closure **cap** 58. The rim is connected to the main **cap** body by six tearable portions 62, which are broken on unscrewing the **cap** and provide an indication of opening. The **cap** may be provided with either a dependent ridge 66, which sealingly co-operates with the upper member, or a conventional cork and foil seal. The lower housing member is sealed to the **bottle** rim by annular projections 50 and has a dependent spigot 54 having sealing ribs 56. The stem of the **valve** may be fluted at 38 or tapered. Additional ribs 22, Fig. 3 (not shown), may be provided between the ribs 20.

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- PN - [GB2412368](#) A 20050928
- PNFP - GB2412368 B 20060830
- PR - GB20040006630 20040324
- AP - GB20050006128 20050324
- DT - **
- CT - (A)
[GB808612](#) A []; [GB2255555](#) A [];
[GB2379656](#) A []; [EP0421620](#) A1 [];
[US4684554](#) A []; [US6241111](#) B1 [];
[US2003057175](#) A1 []
- (B)
[GB808612](#) A []; [GB848784](#) A [];

	GB2255555 A []; GB2379656 A []; EP0421620 A1 []; JP2002059948 A []; US4684554 A []; US6241111 B1 []; US2003057175 A1 []
CCI	- B65D41/0407 ; B65D41/0414 ; B65D41/045 ; B65D41/325
CNOI	- (B) B65D51/00 ; B65D53/04
PA	- (A) SPRECKELSEN MCGEOUGH LTD - (B) SPRECKELSEN MCGEOUGH LTD [GB]; BAPCO CLOSURES RES LTD [GB]
TI	- (A B) Closure with integral gas barrier
AB	- (A) A cap (2) suitable for use with a PET beverage bottle has an integral gas barrier provided by a plastics-coated aluminium foil disc (30) having its peripheral edge (32) embedded into the plastics internal or external surface (40) of a top panel (4) of the cap or of a valve (20). A plastics component (28) from which the cap (2) can be produced is described. The component (28) has a recess (48) defined by a sacrificial wall (50) formed inwardly of a resealing valve (20). Oxygen scavenging materials may be used, a plug (92, Fig 14) may be provided to fill the void inside the cap , the liner may be attached to cover either an internal or external end face of the plug. An opening (66, Fig 7) may be formed in the top panel 4 of the cap 2, a plate (62, Fig 7), which traps the foil liner 30 to an internal surface of the top panel 4, may be provided.

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PN	- GB2412366 A 20050928
PNFP	- GB2412366 B 20060906
PR	- GB20040006630 20040324
AP	- GB20040006630 20040324
DT	- **
CT	- (A) GB2107290 A []; GB2379656 A []; EP0421620 A1 []; US4684554 A []; US6241111 B1 []; US2003057175 A1 [] - (B) GB2107290 A []; GB2379656 A []; EP0421620 A1 []; JP2002059948 A []; US4684554 A []; US6241111 B1 []; US2003057175 A1 []
CCI	- B65D41/0407 ; B65D41/0414 ; B65D41/045 ; B65D41/325

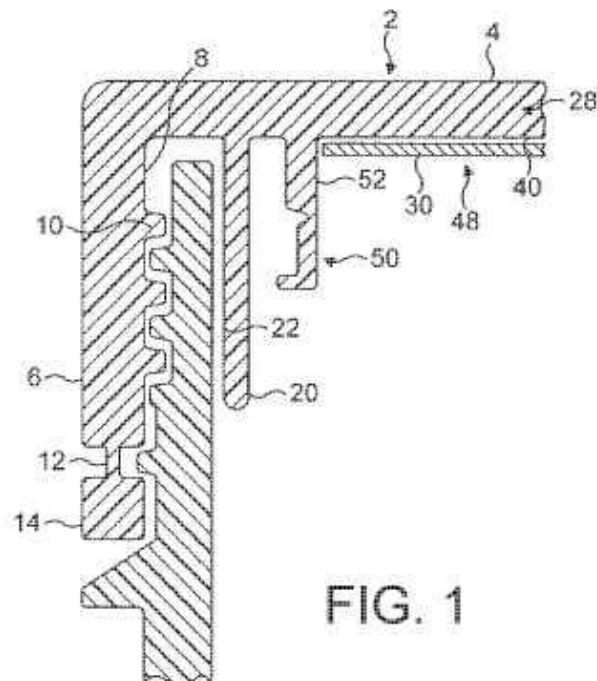


FIG. 1

CNOI - (B)
[B65D51/00](#) ; [B65D53/04](#)

PA - (A)
 SPRECKELSEN MCGEOUGH LTD
 [GB]

- (B)
 SPRECKELSEN MCGEOUGH LTD
 [GB]; BAPCO CLOSURES RES
 LTD [GB]

TI - (A B)
 Closure with integral gas
 barrier

AB - (A)
 A **cap** (2) suitable for use with
 a PET beverage **bottle** has an
 integral gas barrier provided
 by a plastics-coated
 aluminium foil disc (30)
 having its peripheral edge
 (32) embedded into the
 plastics internal or external
 surface (40) of a **top** panel (4)
 of the **cap** or of a **valve** (20). A
 plastics component (28) from
 which the **cap** (2) can be
 produced is described. The
 component (28) has a recess
 (48) defined by a sacrificial
 wall (50) formed inwardly of
 a resealing **valve** (20).

10/11 © EPODOC / EPO

PN - [CN1934006](#) A 20070321

PNFP - CN1934006B B 20100512

PR - WO2005GB01109 20050324; GB20040006630 20040324

AP - CN2005809227 20050324

DT - I

CCI - [B65D41/0414](#) ; [B65D41/0407](#) ; [B65D41/045](#) ; [B65D41/325](#)

PA - (A)
 SPRECKELSEN MCGEOUGH LTD [GB]

- (B)
 BAPCO CLOSURES RES LTD

TI - (A B)
 Closure with integral gas barrier

AB - (B)
 A **cap** (2) suitable for use with a PET beverage **bottle** has an integral gas barrier
 provided by a plastics-coated aluminium foil disc (30) having its peripheral edge
 (32) embedded into the plastics internal or external surface (40) of a **top** panel (4) of
 the **cap** or of a **valve** (20). A plastics component (28) from which the **cap** (2) can be
 produced is described. The component (28) has a recess (48) defined by a sacrificial

wall (50) formed inwardly of a resealing **valve** (20).

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PN - [CN2503015Y](#) Y 20020731

PR - CN2001232029U 20010724

AP - CN2001232029U 20010724

DT - I

PA - LIN ZHIFENG [CN]

TI - Water-supply **bottle cap**

AB - The utility model relates to a water supply **bottle cap**, in particular to a water supply **bottle cap** special for a drinking water dispenser. The **bottle cap** can prevent impurity from entering as well as reduce the making cost, aiming to provide a water supply **bottle cap** which has a function of preventing impurity from entering as well as reducing the making cost. The water supply **bottle cap**, consisting of a **bottle cap** 1, is characterized in that a convex inflow course 10 is formed in the center of the bottom of the **bottle cap** 1. The **top** of the inflow course shares an integrated forming with the water supply **bottle cap** and incises **valve** clack 11. The inflow course 10 is sealed by a flake 12 among the **valve** clacks 11.

[SS 8] Nozzle AND CAP AND Liquid AND dispenser AND container and assembly

Results in EPODOC 15

[SS 9] ..v

[EPODOC: SS 9] 8

Results in EPODOC 15

[SS 10] ..li



1/15 © EPODOC / EPO

PN - [US2015232258](#) A1 20150820

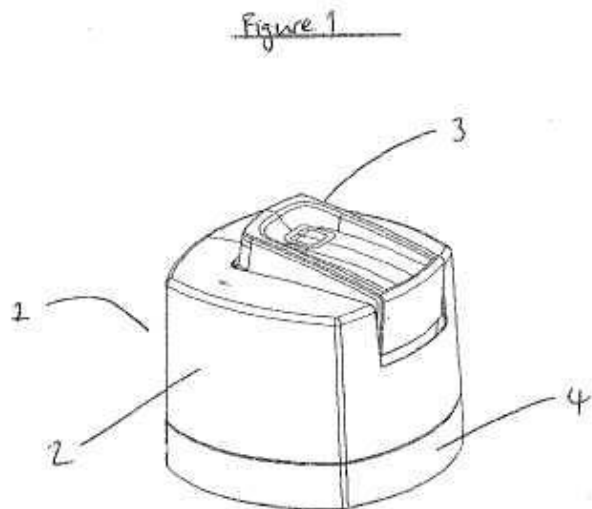
PNFP - US9394096 B2 20160719

PR - EP20110188489
20111109; WO2012EP69950
20121009

AP - US201214355594 20121009

DT - **

CT - || STSE (A1)
[US4542837](#) A 19850924 [
] (RAYNER ADRIEN P [GB]);
[US8201710](#) B2 20120619 [
] (HELF THOMAS A [US], et al);
[US6758373](#) B2 20040706 [
] (JACKSON NIGEL L [GB], et al);
[US2014329918](#) A1 20141106
[] (ARORA AMIT [GB], et al);



[US3734354](#) A 19730522 [
] (GACH P);
[US3860149](#) A 19750114 [
] (HAGIANIS ERNEST JOHN);
[US7874465](#) B2 20110125 [
] (BERTIN ROMAIN [FR], et al);
[US2012292344](#) A1 20121122
 [] (BERTIN ROMAIN [FR], et al)
 - || STSE (B2)
[US3734354](#) A 19730522 [
] (GACH P);
[US3860149](#) A 19750114 [
] (HAGIANIS ERNEST JOHN);
[US4542837](#) A 19850924 [
] (RAYNER ADRIEN P [GB]);
[US6758373](#) B2 20040706 [
] (JACKSON NIGEL L [GB], et al);
[US7874465](#) B2 20110125 [
] (BERTIN ROMAIN [FR], et al);
[US8201710](#) B2 20120619 [
] (HELF THOMAS A [US], et al);
[US2012292344](#) A1 20121122
 [] (BERTIN ROMAIN [FR], et
 al);
[US2014329918](#) A1 20141106
 [] (ARORA AMIT [GB], et al)
 CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)
 CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)
 CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)
 PA - (A1)
 CONOPCO INC D B A
 UNILEVER [US]; CONOPCO INC
 DBA UNILEVER [US]
 - (B2)
 CONOPCO INC [US]
 TI - (A1)
 ACTUATOR **CAP** FOR A
 FLUID **DISPENSER**
 - (B2)
 Actuator **cap** for a
 fluid **dispenser**
 AB - (A1)
 An actuator **cap** (1) for
 dispensing a **liquid** product,
 comprising a rotatable outer
 body (2) and an associated
 actuator button (3) and a non-
 rotatable chassis (4) and an
 associated spray

channel **assembly** (6), the latter comprising an outlet **nozzle** (63); the outer body (2) and actuator button (3) being rotatable between: a first position in which the actuator button (3) is non-elevated, the actuator button (3) being incapable of depression in this position; a second position in which the actuator button (3) is elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

- (B2)

An actuator **cap** for dispensing a **liquid** product, the **cap** comprising a rotatable outer body and an associated actuator button and a non-rotatable chassis and associated spray channel **assembly**; the outer body and actuator button being rotatable between: a first position in which the actuator button is non-elevated, the actuator button being incapable of depression in this position; a second position in which the actuator button is elevated across its full length and width relative to top surface of the outer body, the button

still being incapable of depression in this position; and a third position in which the actuator button is elevated across its full length and width and tilted relative to top surface of the outer body, the button being capable of depression in this position; depression of the actuator button causing release of **liquid** product from an associated **container** through the spray channel **assembly**.

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PN - [MX2014005700](#) A 20140605

PR - EP20110188489
20111109; WO2012EP69950
20121009

AP - MX20140005700 20121009

DT - I

CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)

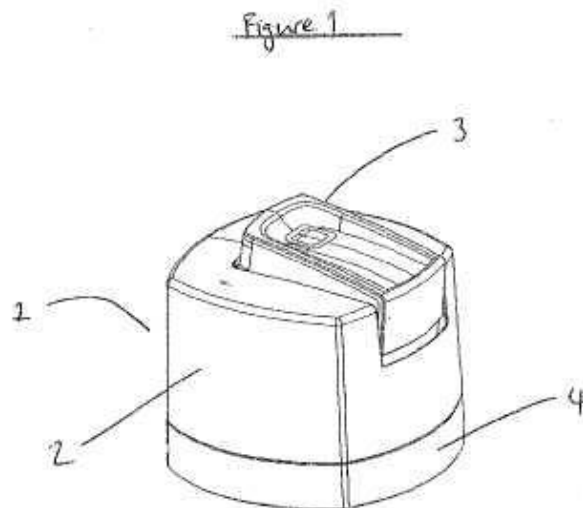
CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)

CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)

PA - UNILEVER NV [NL]

TI - ACTUATOR **CAP** FOR A
FLUID **DISPENSER**

AB - An actuator **cap** (1) for dispensing a **liquid** product, comprising a rotatable outer body (2) and an associated actuator button (3) and a non-rotatable chassis (4) and an associated spray channel **assembly** (6), the latter comprising an outlet **nozzle** (63); the outer body (2) and actuator button (3) being rotatable between: â
ç a first position in which the actuator button (3) is non-elevated, the actuator button (3) being incapable of depression in this position; â
ç a second position in which the actuator button (3) is



elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

3/15 © EPODOC / EPO

PN - [CN104053508](#) A 20140917

PNFP - CN104053508B B 20160713

PR - WO2012EP69950 20121009; EP20110188489 20111109

AP - CN2012855137 20121009

DT - I

CT - || STSE (A)
[FR2953497](#) A1 20110610 [A] (VALOIS SAS [FR]);
[CN1471615](#) A 20040128 [A] (VALOIS SA [FR]);
[JPS6287765U](#) U 19870604 [A];
[DE29610372U](#) U1 19961017 [A] (HOLTHOFF MARTIN [DE]);
[US4542837](#) A 19850924 [A] (RAYNER ADRIEN P [GB])

CCI - [B05B11/0056](#) ; [B65D83/205](#) ; [B65D83/22](#)

CNOI - (A)
[B05B11/0032](#) ; [B65D83/205](#) ; [B65D83/22](#)

CCA - [B05B11/306](#) ; [B65D83/34](#) ; [B65D2215/04](#)

CUA - [B05B11/3059](#) ; [B65D83/46](#) ; [B67B1/00](#)

CNOA - (A)
[B05B11/306](#) ; [B65D83/34](#) ; [B65D2215/04](#)

PA - (A)
 UNILEVER NV

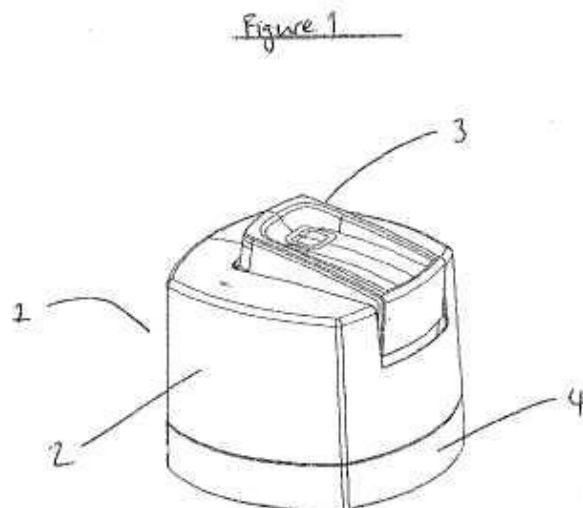
TI - (A)
 ACTUATOR **CAP** FOR A FLUID **DISPENSER**

AB - (A)
 An actuator **cap** (1) for dispensing a **liquid** product, comprising a rotatable outer body (2) and an associated actuator button (3) and a non-rotatable chassis (4) and an associated spray channel **assembly** (6), the latter comprising an outlet **nozzle** (63); the outer body (2) and actuator button (3) being rotatable between: . a first position in which the actuator button (3) is non-elevated, the actuator button (3)

being incapable of depression in this position; . a second position in which the actuator button (3) is elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and . a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

4/15 © EPODOC / EPO

- PN - [EA201490870](#) A1 20140829
- PNFP - EA025015 B1 20161130
- EA025015 B9 20170531
- PR - EP20110188489
20111109; WO2012EP69950
20121009
- AP - EA20140090870 20121009
- DT - I
- CT - || STSE (B1)
[US4542837](#) A 19850924 [] (RAYNER ADRIEN P [GB]);
[JPS4887765U](#) U 19731023 [];
[FR2953497](#) A1 20110610 [] (VALOIS SAS [FR]);
[DE29610372U](#) U1 19961017 [] (HOLTHOFF MARTIN [DE])
- CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)
- CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)
- CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)
- PA - (B1 B9)
UNILEVER NV [NL]
- TI - (B1 B9)
ACTUATOR **CAP** FOR A
FLUID **DISPENSER**
- AB - (B1 B9)
An actuator **cap** (1) for
dispensing a **liquid** product,
comprising a rotatable outer
body (2) and an associated
actuator button (3) and a non-
rotatable chassis (4) and an
associated spray
channel **assembly** (6), the
latter comprising an
outlet **nozzle** (63); the outer
body (2) and actuator button
(3) being rotatable between a



first position in which the actuator button (3) is non-elevated, the actuator button (3) being incapable of depression in this position; a second position in which the actuator button (3) is elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

5/15 © EPODOC / EPO

- PN - [CA2851374](#) A1 20130516
- PR - EP20110188489 20111109; WO2012EP69950 20121009
- AP - CA20122851374 20121009
- DT - I
- CCI - [B05B11/0056](#) ; [B65D83/205](#) ; [B65D83/22](#)
- CCA - [B05B11/306](#) ; [B65D83/34](#) ; [B65D2215/04](#)
- CUA - [B05B11/3059](#) ; [B65D83/46](#) ; [B67B1/00](#)
- PA - UNILEVER PLC [GB]
- TI - ACTUATOR **CAP** FOR A FLUID **DISPENSER**
- AB - An actuator **cap** (1) for dispensing a **liquid** product, comprising a rotatable outer body (2) and an associated actuator button (3) and a non-rotatable chassis (4) and an associated spray channel **assembly** (6), the latter comprising an outlet **nozzle** (63); the outer body (2) and actuator button (3) being rotatable between: a first position in which the actuator button (3) is non-elevated, the actuator button (3) being incapable of depression in this position; a second position in which the actuator button (3) is elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

6/15 © EPODOC / EPO

PN - [AU2012334333](#) A1 20140424

PNFP - AU2012334333B B2 20160324

PR - EP20110188489
20111109; WO2012EP69950
20121009

AP - AU20120334333 20121009

DT - I

CT - || STSE (B2)
[US4542837](#) A 19850924 [
] (RAYNER ADRIEN P [GB]);
[DE29610372U](#) U1 19961017 [
] (HOLTHOFF MARTIN [DE]);
[FR2953497](#) A1 20110610 [
] (VALOIS SAS [FR]);
[JPS6287765](#) A 19870422 [
] (NIPPON DENSO CO)

CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)

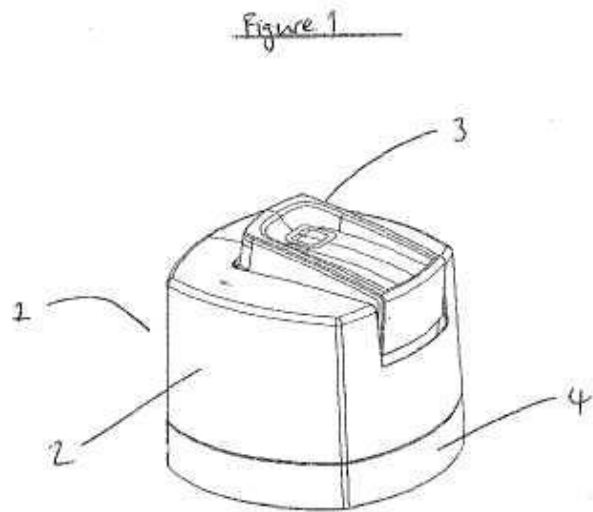
CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)

CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)

PA - (A1 B2)
UNILEVER PLC

TI - (A1 B2)
Actuator **cap** for a
fluid **dispenser**

AB - (A1 B2)
An actuator **cap** (1) for
dispensing a **liquid** product,
comprising a rotatable outer
body (2) and an associated
actuator button (3) and a non-
rotatable chassis (4) and an
associated spray
channel **assembly** (6), the
latter comprising an
outlet **nozzle** (63); the outer
body (2) and actuator button
(3) being rotatable between: •
a first position in which the
actuator button (3) is non-
elevated, the actuator button
(3) being incapable of
depression in this position; •
a second position in which
the actuator button (3) is
elevated across its full length



and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and • a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

7/15 © EPODOC / EPO

PN - [WO2013068189](#) A1 20130516

PR - EP20110188489 20111109

AP - WO2012EP69950 20121009

DT - **

CT - |EP| ISR (A1)
[US4542837](#) A 19850924
 [AD] (RAYNER ADRIEN P [GB])
 [AD] 1

* the whole document *;

[JPS6287765U](#) U 19870604

[A] (UNKNOWN)

[A] 1

* figure - *;

[FR2953497](#) A1 20110610

[A] (VALOIS SAS [FR])

[A] 1

* page 5, line 31 - page 13,
 line 12; figure - *;

[DE29610372U](#) U1 19961017

[A] (HOLTHOFF MARTIN [DE])

[A] 1

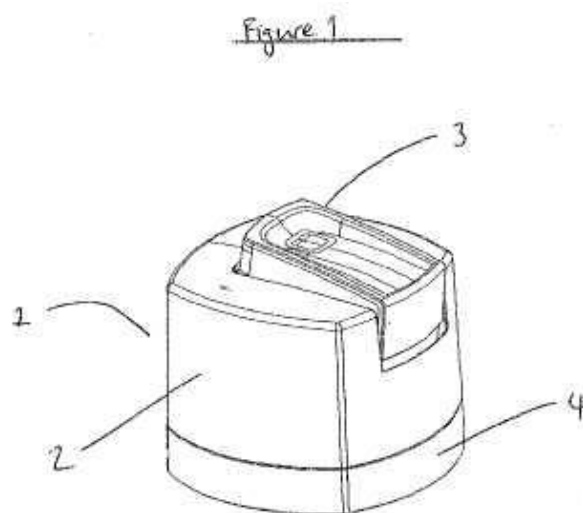
* page 6; figure - *

CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)

CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)

CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)

PA - UNILEVER PLC[GB]; UNILEVER
 NV[NL]; UNILEVER HINDUSTAN



[IN]; CONOPCO INC DBA
UNILEVER [US]

- TI - ACTUATOR **CAP** FOR A
FLUID **DISPENSER**
- AB - An actuator **cap** (1) for
dispensing a **liquid** product,
comprising a rotatable outer
body (2) and an associated
actuator button (3) and a non-
rotatable chassis (4) and an
associated spray
channel **assembly** (6), the
latter comprising an
outlet **nozzle** (63); the outer
body (2) and actuator button
(3) being rotatable between: .
a first position in which the
actuator button (3) is non-
elevated, the actuator button
(3) being incapable of
depression in this position; .
a second position in which
the actuator button (3) is
elevated across its full length
and width relative to top
surface (25) of the outer body
(2), the button (3) still being
incapable of depression in
this position; and . a third
position in which the
actuator button (3) is
elevated across its full length
and width and tilted relative
to top surface (25) of the
outer body (2), the button (3)
being capable of depression
in this position; depression of
the actuator button (3)
causing release of **liquid**
product from an
associated **container** through
the spray channel **assembly**
(6).

8/15 © EPODOC / EPO

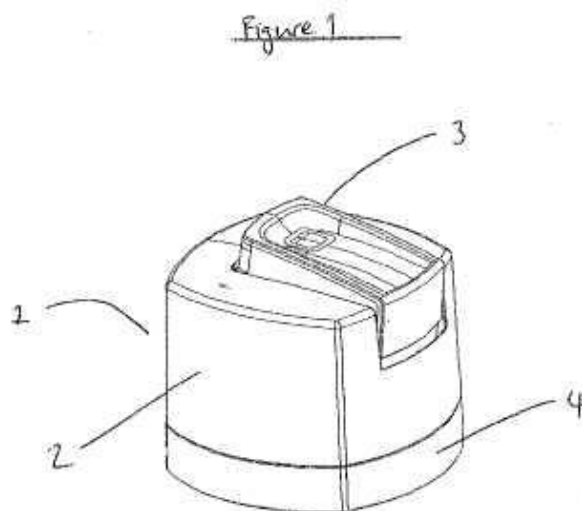
- PN - [NZ576433](#) A 20111222
- PR - NZ20100576433 20100415
- AP - NZ20100576433 20100415
- DT - I
- PA - SIST PLASTICS LTD
- TI - A closure with a pop-up **nozzle** activated by the relative rotational movement of the

housing and the **cap**

- AB - A dispensing closure **assembly** with a pop-up **nozzle** activated by the relative rotational movement of the housing and the **cap** is disclosed. Closure **assembly** comprises several moulded components to include a **nozzle**, spring, twisting bias catch and housing components sharing a coaxial arrangement. Closure **assembly** is to be suitably engaged to a complementary **container** for the purpose of dispensing a suitable **liquid**. Pop-up **nozzle** is able to be directly depressed and remain depressed or latched until released via twisting movement which engages an internal component of the moulded **assembly**. The internal component is described as a twist bias catch. A typical application would be in the use of drinking vessel or cleaning **liquid dispenser**.

9/15 © EPODOC / EPO

- PN - [EP2591860](#) A1 20130515
- PNFP - EP2591860 B1 20140326
- PR - EP20110188489 20111109
- AP - EP20110188489 20111109
- DT - *; Rep
- CT - || STSE (A1)
[EP0119084](#) A2 19840919
[AD] (METAL BOX PLC [GB])
[AD] 1
* the whole document *;
[FR2953497](#) A1 20110610
[A] (VALOIS SAS [FR])
[A] 1
* page 5, line 31 - page 13,
line 12; figure - *;
[DE29610372U](#) U1 19961017
[A] (HOLTHOFF MARTIN [DE])
[A] 1
* page 6; figure - *
- CCI - [B05B11/0056](#) ; [B65D83/205](#) ;
[B65D83/22](#)
- CCA - [B05B11/306](#) ; [B65D83/34](#) ;
[B65D2215/04](#)
- CUA - [B05B11/3059](#) ; [B65D83/46](#) ;
[B67B1/00](#)
- PA - (A1 B1)
UNILEVER PLC[GB]; UNILEVER
NV[NL]
- TI - (A1 B1)
Actuator **cap** for a
fluid **dispenser**
- AB - (A1)
An actuator **cap** (1) for
dispensing a **liquid** product,
comprising a rotatable outer
body (2) and an associated
actuator button (3) and a non-



rotatable chassis (4) and an associated spray channel **assembly** (6), the latter comprising an outlet **nozzle** (63); the outer body (2) and actuator button (3) being rotatable between: a first position in which the actuator button (3) is non-elevated, the actuator button (3) being incapable of depression in this position; a second position in which the actuator button (3) is elevated across its full length and width relative to top surface (25) of the outer body (2), the button (3) still being incapable of depression in this position; and a third position in which the actuator button (3) is elevated across its full length and width and tilted relative to top surface (25) of the outer body (2), the button (3) being capable of depression in this position; depression of the actuator button (3) causing release of **liquid** product from an associated **container** through the spray channel **assembly** (6).

10/15 © EPODOC / EPO

PN - [CN201580689U](#) U 20100915

PR - CN20092124383U 20090713

AP - CN20092124383U 20090713

DT - I

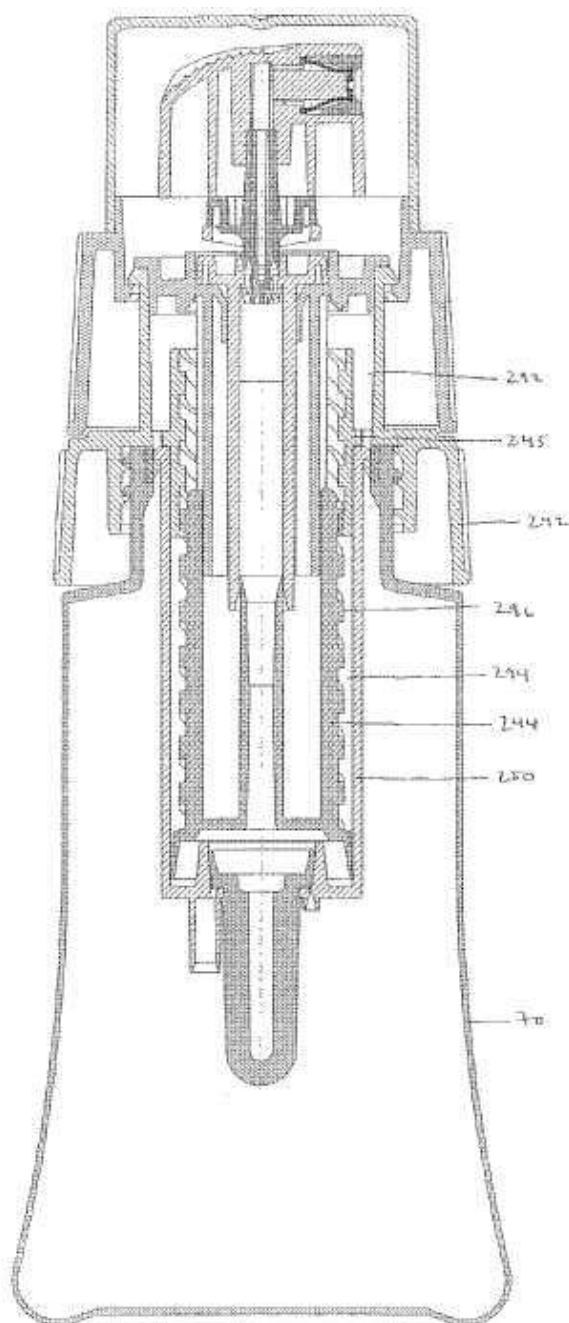
PA - XINGUO XIE

TI - Vacuum organ type bottle

AB - The utility model provides a vacuum organ type bottle, which comprises main components including a bottle body, an external bottle **cap**, a bottom cover, an inner **container**, a bent **nozzle**, an internal bottle **cap**, a middle joint, a pump body and the like. The vacuum organ type bottle is structurally characterized in that the inner **container** is sleeved inside the bottle body and is a spiral telescopic structure, and an outer opening of the inner **container** externally extends to an outer opening of the bottle body. Through two structural characteristics and **assembly** procedures including that the outer edge of the pump body is pressed and the middle joint is in spinning fixation with the bottle body, the inner **container** is closely jointed with the bottle body and the pump body, an original piston body inside the bottle body is

removed, and the telescopic threaded flexible plastic inner **container** is additionally arranged inside the bottle body. When the **liquid dispenser** is pressed by external force to increase pressure in the bottle body, pressure inside the inner **container** is identical to that of external air through a form of upwards contracting the inner **container**.

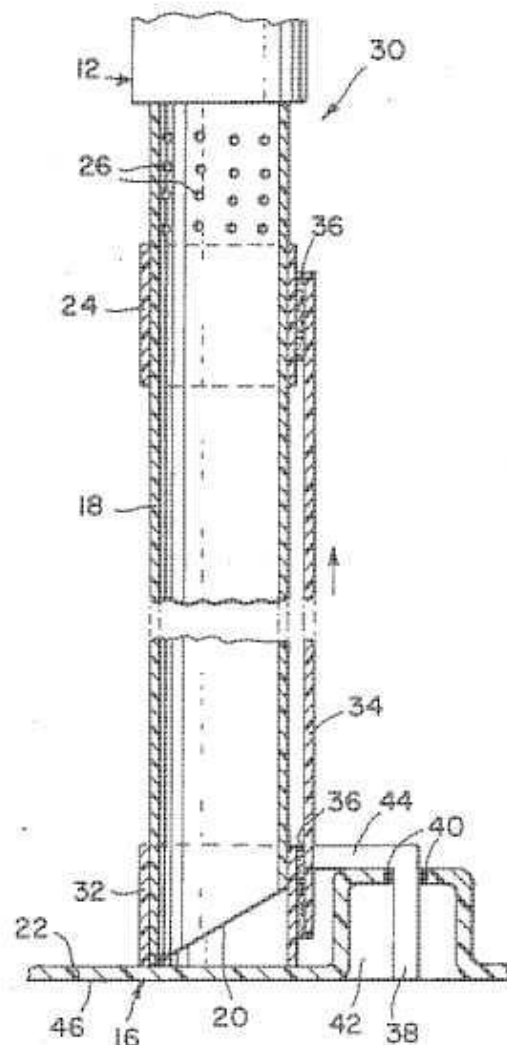
- 11/15 © EPODOC / EPO
- PN - [US2003034362](#) A1 20030220
- PNFP - US6708852 B2 20040323
- PR - US20010933574 20010820
- AP - US20010933574 20010820
- DT - *
- CT - (B2)
[US5549223](#) A []
- CCI - [B05B9/0883](#)
- PA - (B2)
ALTERNATIVE PACKAGING
SOLUTION [US]
- TI - (A1 B2)
Non-chemical
aerosol **dispenser**
- AB - (A1 B2)
A mechanically pressurized
aerosol dispensing system
comprising a **cap** which
houses a piston, an actuator
moveably attached to the **cap**,
forming together with the **cap**
a dispensing head **assembly**,
and an expandable elastic
reservoir. The system is fitted
over a standard **container**
holding a **liquid** product, and
includes a dip tube **assembly**
to draw **liquid** into the
dispensing head **assembly**,
where the contents are
released through the
dispensing head **assembly**,
via the aerosol **nozzle** and
valve. A twist of the
threaded **cap** raises a piston,
thereby opening a charging
chamber within the
dispensing head **assembly**.
This creates a vacuum with
the resulting suction pulling
the product up through the
dip tube to fill the charging
chamber. Twisting the **cap** in
the opposite direction lowers



the piston in a downstroke which closes the charging chamber, forcing the product into the expandable elastic reservoir where it is then discharged through the **nozzle**.

12/15 © EPODOC / EPO

- PN - [US4019661](#) A 19770426
- PR - US19750596730 19750717
- AP - US19750596730 19750717
- DT - *; Rep
- CT - || STSE (A)
[GB245734](#) A 19260311 [
] (POLEO FEUERLOESCHER GES
 MIT BE);
[US2556180](#) A 19510612 [
] (HAMILTON WILLIAM F, et
 al);
[US2792974](#) A 19570521 [
] (SMITH LA VERN N, et al)
- CCI - [B05B11/0059](#) ;
[F04B53/1037](#) ; [B05B15/30](#)
- PA - SZABO JANOS
- TI - **Liquid dispenser** for selective
 upside down or right side up
 use
- AB - A **liquid dispenser** includes
 a **nozzle** and pump **assembly**
 mounted on a **cap** for
 a **container**. A straight suction
 tube below the **cap** leading
 from the **nozzle** and
 pump **assembly** to the bottom
 of the **container** is perforated
 just below the **cap** and an
 attachment which is a short
 length of tube is carried
 about the suction tube in a
 manner where it may be slid
 sealably over the
 perforations to permit fluid to
 be sucked from the bottom of
 the **container**. For dispensing
 or spraying **liquid** with
 the **container** upside down,
 the perforations are left
 uncovered, and the end of the
 tube at the bottom of
 the **container** is sealed with a
 removeable end **cap**



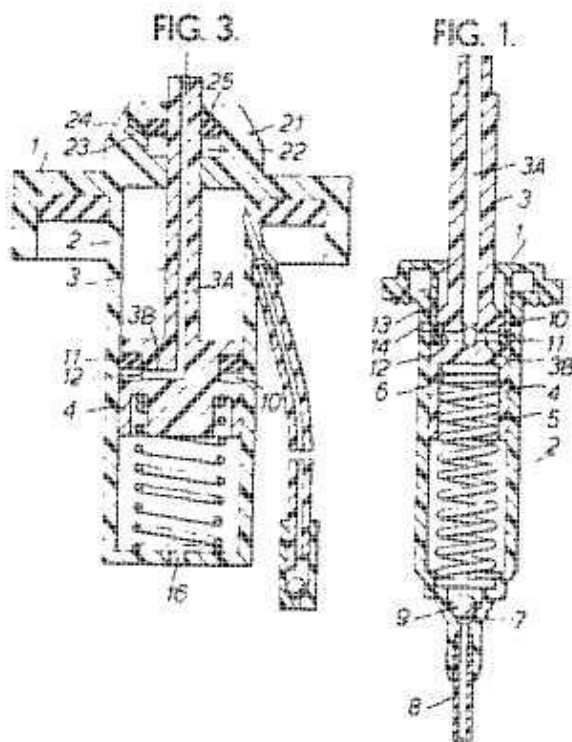
attachment. To enable the last of the **liquid** in the **container** to be dispensed a removeable 90 DEG elbow attachment is provided fitted on the bottom end of the tube.

13/15 © EPODOC / EPO

- PN - [US4513891](#) A 19850430
- PR - US19820368722 19820415
- AP - US19820368722 19820415
- DT - *
- CT - [US1977227](#) A []; [US2115959](#) A [];
[US2752199](#) A []; [US3199787](#) A [];
[US3221945](#) A []
- CCI - [A61M15/08](#) ; [B05B11/047](#) ; [B65D47/2031](#) ; [B65D51/1644](#) ; [A61M15/0025](#)
- PA - STERLING DRUG INC [US]
- TI - Spray dispensing **container** and valve therefor
- AB - A spray **dispenser** of the squeeze bottle type, for use in the administration of nasal sprays, comprises a squeeze bottle in combination with a spray **dispenser** head **assembly** consisting of a **cap**, and associated spray **nozzle** which functions as a two-way check valve and a dip tube for conveying **liquid** from the bottle to the spray **nozzle**. The head may optionally be fitted with an overcap for protecting the spray head from contamination when not in use.

14/15 © EPODOC / EPO

- PN - [GB1112531](#) A 19680508
- PR - GB19640038964 19640924
- AP - GB19640038964 19640924
- DT - *
- CCI - [B05B11/3094](#) ;
[B05B11/3023](#) ; [B05B11/309](#) ;
[F04B9/06](#)
- PA - BESPAC INDUSTRIES LTD
- TI - Improvements in and relating to dispensing pump and valve assemblies
- AB - 1,112,531. Reciprocating pumps; pressurized dispensing containers. BESPAC INDUSTRIES Ltd. Sept. 22, 1965 [Sept. 24, 1964; Nov. 6, 1964], Nos. 38964/64 and 45441/64. Headings F1A and F1R. A **dispenser** pump unit for mounting on a **container** and preventing leakage of the **container** contents when not in use, comprises a

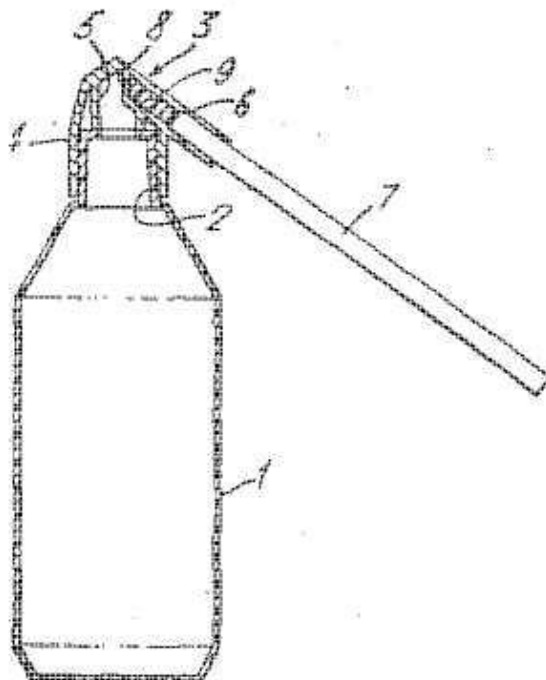


manually actuated plunger 4 with a longitudinal bore 3A communicating with the atmosphere and on annular groove 10 communicating with bore 3A via radial bores 3B, a sealing ring 11 located in groove 10 acting to close bores 3B during the upward stroke by a spring 6, so that **liquid** is drawn into chamber 2 via a check valve 9, and to open bores 3B during the downward stroke, so that the **liquid** in chamber 2 is delivered through bores 3B and 3A. Also on the upward stroke, air enters the **container** via clearance between stem 3 and **cap** 1 and ports 14, the air passage being closed in the position shown by ring 11 seating against sleeve 13. In Fig. 2 (not shown), the spring effects the delivery stroke, the inlet opening being above the plunger, and entry of air into the **container** is controlled by a resilient disc (19). In Fig. 3, sealing ring 11 only controls the entry of air into the **container** via bores 3A, 3B and port 16, the pump inlet communicating with chamber 2 above the plunger 4, and delivery taking place through a spray **nozzle** 23. A sealing member 25 moves with plunger rod 3 to seal **nozzle** 23 during the downward suction stroke. The pump assemblies may be used for "mother and daughter" pressurized dispensing **container** arrangements, the pump **assembly** being mounted on the "mother" **container** without the return spring 6 and **container** venting arrangements. The

"daughter" **container** can then be recharged from the "mother" **container** by a pumping action.

15/15 © EPODOC / EPO

PN - [GB1079834](#) A 19670816
 PR - GB19630038211 19630927
 AP - GB19630038211 19630927
 DT - *
 CCI - [B05B11/047](#) ; [B05B7/0037](#)
 PA - UNILEVER LTD
 TI - Dispensers
 AB - 1,079,834. Spray producers. UNILEVER Ltd. Sept. 24, 1964 [Sept. 27, 1963], No. 38211/63. Heading B2F. A foam **dispenser** comprises a resilient **container** 1 having a screw neck 2 to which a dispensing head 3 is attached. The latter, which comprises a **cap** 4, a skirt 5, a restricting orifice 8, a **nozzle** 6 and an extension tube 7, houses a perforate member in the form of a foraminated P.V. C. foaming pellet. The orifice 8 forms a restriction member which substantially prevents any escape of **liquid** from the **container** in **liquid** form. In use the **container** is half to two thirds filled with a foamable **liquid**, the head is attached and the **assembly** shaken to form foam. When the **container** is squeezed the foam passes through the orifice 8 and pellet 9 to emerge as dry foam from the tube 7. Instead of a pellet the member 9 may be a perforated ceramic disc.



[SS 10] TERAPUMP

Results in EPODOC 0

EPODOC: term 'TERAPUMP' not found in index 'BI'. WARNING(1)

[SS 11] cap and 5 gallon and valve

Results in EPODOC 0

EPODOC: term '5 GALLON' not found in index 'BI'. WARNING(1)

[SS 12] cap and gallon and valve

Results in EPODOC 11

[SS 13] ..li



1/11 © EPODOC / EPO

PN - [US2017326482](#) A1 20171116

PR - US201715590391
20170509; US201662334916P
20160511

AP - US201715590391 20170509

DT - *; Rep

CCI - [B01D35/153](#) ; [B01D36/001](#) ;
[B01D29/114](#) ; [B01D29/33](#)

CUI - [C02F1/00](#)

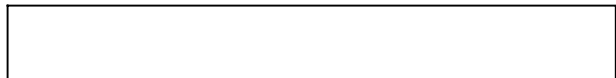
CQI - [B01D35/00](#) ; [B01D35/306](#)

CCA - [B01D2201/184](#) ;
[B01D2201/291](#) ;
[B01D2201/4084](#)

PA - PHIL-UP LLC [US]

TI - SYSTEMS AND APPARATUS FOR
A FLUID FILTRATION DEVICE

AB - Systems and apparatus for a
fluid filtration device may
include a filter housing
having openings disposed
along a sidewall of the filter
housing and a check **valve**
extending outwardly from a
first end of the filter housing.
The fluid filtration device may
include a riser coupled to a
second end of the filter
housing and a filter **cap**
coupled to a second end of
the riser. The filter **cap** may
have an opening fluidly
linked to the riser and the
filter housing and be
configured to selectively
attach the fluid filtration
device to a container for
holding fluids such as a three
to six **gallon** refillable water



container.

2/11 © EPODOC / EPO

PN - [CA2966461](#) A1 20171111
PR - US201662334916P 20160511
AP - CA20172966461 20170510
DT - I
CCI - [B01D35/153](#) ; [B01D36/001](#) ; [B01D29/114](#) ; [B01D29/33](#)
CUI - [C02F1/00](#)
CQI - [B01D35/00](#) ; [B01D35/306](#)
CCA - [B01D2201/184](#) ; [B01D2201/291](#) ; [B01D2201/4084](#)
PA - PHIL-UP LLC [US]
TI - SYSTEMS AND APPARATUS FOR A FLUID FILTRATION DEVICE
AB - Systems and apparatus for a fluid filtration device may include a filter housing having openings disposed along a sidewall of the filter housing and a check **valve** extending outwardly from a first end of the filter housing. The fluid filtration device may include a riser coupled to a second end of the filter housing and a filter **cap** coupled to a second end of the riser. The filter **cap** may have an opening fluidly linked to the riser and the filter housing and be configured to selectively attach the fluid filtration device to a container for holding fluids such as a three to six **gallon** refillable water container.

3/11 © EPODOC / EPO

PN - [US6007710](#) A 19991228
PR - US19970937854 19970925
AP - US19970937854 19970925
DT - *
CT - [US4695375](#) A []; [US4808302](#) A [];
[US5133858](#) A []; [US5662793](#) A []
CCI - [B01D61/10](#) ; [B01D65/00](#)
TI - Reverse osmosis membrane housing with integral wide-area check **valve** and shut-off **valve**, optional pressure gauge, and optional large-volume high-flow membrane cartridge
AB - The **cap** to a reverse osmosis (R.O.) system membrane cartridge housing integrates both (i) a system automatic shut-off **valve**, and (ii) an improved check **valve** of such enlarged area and low pressure drop as typically gains 2-4 gallons per day in purified water output. The housing both reduces, typically from seven ports to five ports, and simplifies with hand-tightened quick fittings, the plumbing requirements of the R.O system. The housing fits a new and larger, typically 100+ **gallon** per hour, high-flow-rate R.O. membrane cartridge as well as myriad universal standard cartridges. A pressure gauge is optionally integrated.

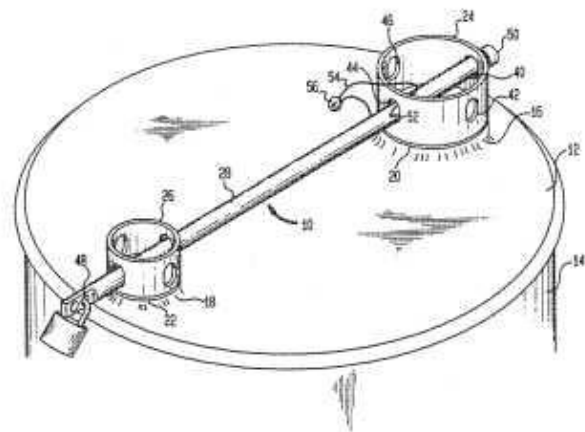
4/11 © EPODOC / EPO

PN - [US6003735](#) A 19991221
PR - US19970935556 19970922
AP - US19970935556 19970922
DT - *

- CT - [US604386](#) A []; [US1381873](#) A [];
[US2547847](#) A []; [US2670107](#) A [];
[US3469747](#) A []; [US3727807](#) A [];
[US3746200](#) A []; [US3858843](#) A [];
[US3927797](#) A []; [US4063667](#) A [];
[US4645099](#) A []; [US4834270](#) A [];
[US5564608](#) A []
- CTNP - [] PTO/Disclosure Document Program: . . . 409,903, filed: Jan.
07, 1997
- CCI - [B65D25/385](#)
- TI - Hand-portable safety-canister w/vari-flow thumb-**valve**
- AB - A much safer, and more convenient to use, flammable-liquid storage-container of the hand-portable 1-5 **gallon** blow-molded/polyethylene-plastic type; featuring a special direct thumb-actuated ballvalve, with generic-variations, configured to enable single-handed holding and dispensing without hazardous spillage. Designed to be safely carried within a car's trunk, the removable fill-**cap** is equipped with a child-resistant/tipover-safe safety-lockout device disengaging the thumb-control from positive engagement with the ball-**valve** in the closed position. The user must first grasp and uphold the "SafeTflow" TM container in hand via the upper longitudinal handle-grip, while positioning their thumb forward upon a leverarm actuator arranged upon a pivot-shaft extending up and aftward from the ballvalve rotary-axis. The user must first be of the mind to intentionally exert certain dexterity as to at once depress the spring-loaded swivel-leverarm with their thumb, thereby engaging the swivel-leverarm with a spline on the ballvalve's pivotshaft. Otherwise the swivel-leverarm merely rotates continuously without opening the ballvalve. Included is an optional quick-disconnect dispensing-nozzle of clear-plastic, which can be readily stowed within the container just beneath the ballvalve **cap**; which preserves compactness of the apparatus, while enabling spill-free dispensing when externally attached.

5/11 © EPODOC / EPO

- PN - [US5199286](#) A 19930406
- PR - US19910808230 19911216
- AP - US19910808230 19911216
- DT - *; Rep
- CT - || STSE (A)
[US1563224](#) A 19251124 [] (WILLIAM PEABODY);
[US1599685](#) A 19260914 [] (MARVELEQUIPMENT COMPANY);
[US1806124](#) A 19310519 [] (SMITH WILLIAM H);
[US1814343](#) A 19310714 [] (SMITH MILTON F);
[US2021745](#) A 19351119 [] (S R DRESSER MFG CO);
[US2107704](#) A 19380208 [] (CONTINENTAL CAN CO);
[US2315644](#) A 19430406 [] (SF BOWSER & CO INC);



	US2489787 A 19491129 [] (KNOWLTON EUGENE W); US2677939 A 19540511 [] (CLUTE HENRY H); US4197875 A 19800415 [] (LIQUID METRONICS INC); US4426863 A 19840124 [] (PPG INDUSTRIES INC [US]); US4458711 A 19840710 [] (JUSTRITE MANUFACTURING CO [US]); US4498680 A 19850212 [] (DAIMLER BENZ AG [DE]); US4655060 A 19870407 [] (TAURUS PRECISION INC [US]); US4788840 A 19881206 [] (WILSON JR DONALD J [US]); US4864834 A 19890912 [] (WAITE RONALD [CA]); US4959980 A 19901002 [] (PHILLIPS MARK S [US])
CCI	- B65D39/08 ; B65D39/088 ; B65D55/06 ; B65D55/14
CCA	- Y10T70/5566 ; Y10T137/7613 ; Y10T137/7927 ; Y10T70/5858
PA	- TAURUS PRECISION INC [US]
TI	- Drum lock device
AB	- A locking device for a drum for chemical- and hazardous- waste containment is described. The locking devices are of drums, usually 30- or 55- gallon sizes, of the closed-end type having a head with two openings or bung holes therethrough. Each drum opening has a flanged or internal portion with interior threads. The locking device has three basic elements, namely, a pair of caps and a slip wrench/locking bar. In one embodiment, one of the caps includes an overpressure relief valve and an flame arrester. Each cap has a threaded base and a larger apertured cylindrical portion

mounted thereon. Each **cap** has a closure gasket mounted at the shoulder formed between the base and the apertured cylinder which gasket permits partial rotation without unsealing the drum. The cylindrical portion of the outer wall has at least two pairs of elongated apertures with 180-degree spacing between the apertures of each pair. The apertures extend, with the **cap** installed, in the corresponding opening, beyond and external to the drum head with the elongation of the aperture substantially axial to the drum. In operation, the slip wrench looking bar extends through the elongated apertures of both caps and has provision for a padlock installation at one end.

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PN - [JP2007084117](#) A 20070405

PNFP - JP4425843B B2 20100303

PR - JP20050275979 20050922

AP - JP20050275979 20050922

DT - I

FI - B65D83/00&G; B67D3/04&Z

FT - 3E014/PA01; 3E014/PB03; 3E014/PB07; 3E014/PC03; 3E014/PC12; 3E014/PD23; 3E014/PE01; 3E014/PE09; 3E014/PE15; 3E014/PE22; 3E014/PF05; 3E014/PF08; 3E082/AA01; 3E082/BB01; 3E082/CC01; 3E082/DD05; 3E082/FF05

PA - (A)
MAGATA FUJI KASEI KK

TI - (A)
CAP OF LIQUID STORAGE BOTTLE, AND THE LIQUID STORAGE BOTTLE

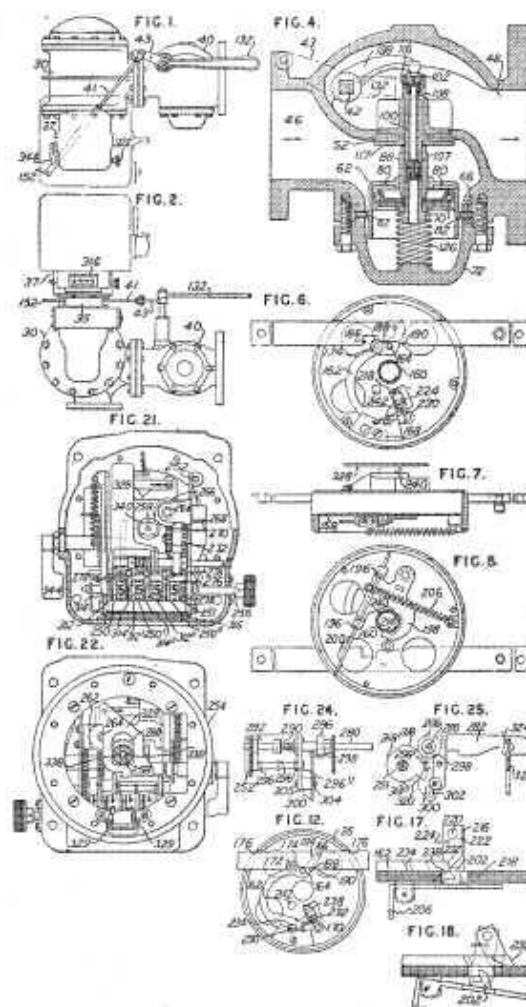
AB - (A)
PROBLEM TO BE SOLVED: To provide a **cap** for use of a liquid storage bottle, which can serve continuously and can be used even if a diameter of a retaining pin differs by several millimeters depending on a manufacturer.
- SOLUTION: A **cap** body consists of an outer tube to be screwed with a nipple 51 of a **gallon** bottle 5, a circular bottom having a center hole integrally formed at one of ends of the outer tube and an inner tube 114 integrally formed with the bottom, coaxial with the center hole, and coaxially extending inward. The retaining pin 62 of a water feeder 6 works in the **cap** 1 only to press a ball **valve** 13 to have the **valve** 13 separated from a seal 12. It is a coil spring 15 that works to bring the ball **valve** 13

into contact with the seal 12 to close the seal 12. Thus the **cap** 1 can be more surely opened/closed to permit the **cap** to open/close repeatedly. Further, the seal 12 enables the **cap** to be used even if the diameter of the retaining pin differs by several millimeters.

- COPYRIGHT: (C)2007,JPO&INPIT

7/11 © EPODOC / EPO

PN - [GB764550](#) A 19561228
 PR - USX764550 19540217
 AP - GB19540035971 19541213
 DT - *
 CCI - [G01F15/001](#) ; [F16K31/14](#)
 PA - ROCKWELL MFG CO
 TI - Predetermining dispensing apparatus
 AB - 764,550. Valves; dispensing liquids. ROCKWELL MANUFACTURING CO. Dec. 13, 1954 [Feb. 17, 1954], No. 35971/54. Class 135. [Also in Group XVIII] Apparatus for dispensing a predetermined quantity of liquid comprises a register or indicator 37, Figs. 1, 2, on which the quantity is set, a meter 30 for operating the register during flow, a **valve** 40, the inlet of which is connected to the meter and the flow through which is regulated by a member biased by a loading spring to its closed position and adjustable to its fully open position by a hand-lever 132, and latch mechanism including a latch bar 152 for holding the member in its open position, said mechanism being releasable at intervals towards the end of the delivery of the required quantity of liquid to permit step-by-step closure of the regulating member under the action of its loading spring to avoid the shock that would be produced by the sudden closure of said member at the end of delivery. The flow of liquid from the inlet 46, Fig. 4,



to the outlet 48 is regulated by a closure member 117 coacting with a seat 52 and attached to a stem 100 having a head 102 by a threaded sleeve 88 carrying a plunger 70 working in a cylinder 62 having a flange 66 secured to the **valve** body by a **cap** 72. The spaces above and below the plunger are connected to the **valve** inlet 46 by ports 80 in the cylinder and bleed holes 82 in the flange, and the member 117 is held against its seat 52 by a loading spring 126. Easy opening of the member 117 is assured by a pressure-equalization pilot **valve** 168 having a closure member 107 held against a seat on the end of the stem 100 by a spring 116. To open the closure member 117, the pilot **valve** is opened by a rocker arm 138 attached to a shaft 42 operated by the hand-lever 132 so that the pressure beneath the plunger falls and the pressure on its upper face, the area of which is greater than that of the member 117, forces the plunger downwards and opens the member 117 against the action of the spring 126. Opening of the **valve** by the hand-lever 132 effects through an arm 43 fast on the shaft 42 and a rod 41 rightward sliding movement of the latch bar 152 through slots 176, Fig. 12, in the wall of a latch box 35 divided by a partition 158, Fig. 7, into upper and lower compartments. The bar coacts with a latch lever 162 pivoted on a pin 164 upstanding from the partition and having an extension 166 engageable during opening of the **valve** by a pin 184 extending

downwardly from the bar, a roller 174 mounted on a pin 172 carried by the lever and engageable with a notch 186 in and cam surfaces 188, 190 on the latch bar during closure of the **valve**, and bevelled edges 232, 234, 238 formed on the end of the lever which moves over an aperture 170 in the partition. Pivoted on a shaft 200, Fig. 8, supported in bearings 196 depending from the partition is a latch-release plate 198 carrying a notched pin 202, Fig. 17, and urged by a spring 206 to a position in which the pin projects through the aperture to coact with the bevelled edges 232, 234 on the lever 162. Also carried by the plate 198 is a post 216 supporting a pivot pin 220 to which is secured a lock arm 222. The post projects through a second aperture 218 in the partition 158, and the lock arm is urged to the position shown in Fig. 17 by a spring 224 attached at one end to the arm and at the other to a plate 168 by which the lever 162 is maintained close to the upper surface of the partition. When the closure member 117 of the **valve** has been fully opened by means of the lever 132, the latch bar and the lever 162 will be in the positions shown in Figs. 6, 17, the bar being urged to the left by the **valve** spring 126 acting through the shaft 42, arm 43 and rod 41, and the lever held in position by the engagement of the notched pin 202 with the bevelled edge 232. In order to release the lever and permit the first stage of the closure movement of the member 117

to be effected by the spring 126, a sleeve 240 projecting downwardly through an aperture in the cover of the latch box and a central opening 160 in the partition 158 and resting on lugs 214, Fig. 8, on the latch-release plate 198 is depressed by mechanical means associated with the register 37 to free the pin 202, Fig. 18, from engagement with the edge 232 of the lever. This action allows movement of the latch bar so that the cam surface 188 rides on to the roller 174 and effects counterclockwise movement of the lever 162 on its pivot 164 until the bevelled edge 238 on the lever abuts against the lower end of the lock arm 222 the pivotal movement of which is arrested by the edge of the aperture 218 in the partition. The second stage of the closure is initiated by the release of the sleeve 240 which allows the release plate 198 to turn on its shaft 200 so that the pin 202 projects through the aperture 170 while the post 216 projects further through the aperture 218 and raises the arm 222 clear of the latter aperture. Under the influence of the spring 126 the latch bar now moves further to the left so that the cam surface 190 rides on to the roller 174 and swings the lever 162 counterclockwise until the pin 202 engages the bevelled edge 234 in the notch 230 of the bar. The third and last stage in the closure is effected by a second depression of the sleeve 240 which releases the pin 202 from the edge 234 and

permits the lever 162 to swing until arrested by the pin 242 upstanding from the partition 158. The register 37 is operated from the meter 30 through a shaft 258, Figs. 21, 22, carrying a gear 260 driving a gear 262 fast on a shaft 264 having a worm 266 driving a wormwheel 270 integral with a gear 268 mounted on a shaft supported in a frame 252. The gear 268 drives a gear 272 also supported by the frame and driving a gear 274 adapted to be clutched to a digit wheel 251 mounted on a shaft 256 which also carries digit wheels 250, 250<SP>1</SP>, 250<SP>11</SP>. The shaft is operable by a knob 322 and may be connected independently to each of the wheels 250, 2501, 250<SP>11</SP>, 251 to set the quantity of liquid to be dispensed. Adjacent the shaft 256 is a shaft 276 journaled in the frame and carrying transfer wheels 278 by which the digit wheels 250, 250<SP>1</SP>, 250<SP>11</SP> are progressively rotated in descending numerical order in known manner. Automatic operation of the sleeve 240 to achieve the stepby-step closure of the **valve** member 117 is effected by a weighted arm 282, Figs. 24, 25, freely mounted on a shaft 280 supported by the frame 252 and having rigid therewith arms supporting a shaft carrying cam followers 296, 2961, 296<SP>11</SP> coacting with cams 312, 312<SP>1</SP>, 312<SP>11</SP> having recesses 314, 314<SP>1</SP>, 314<SP>11</SP> and carried

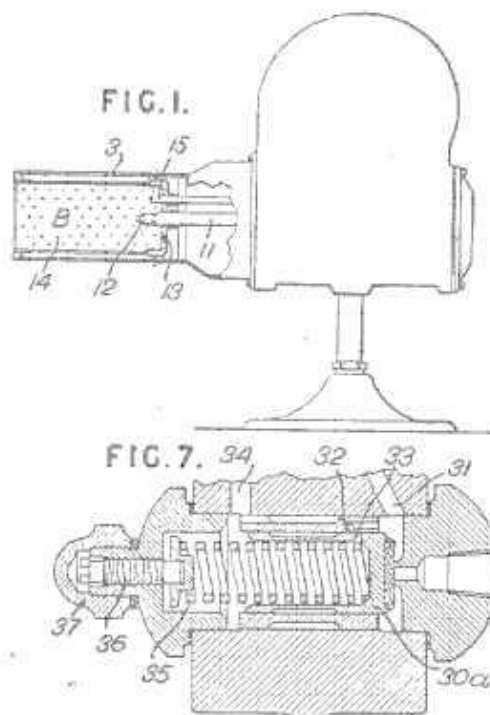
by the digit wheels 250,
250<SP>11</SP>,
250<SP>11</SP>. Secured to a
bracket on arm 282 is a post
305 having a guide pin 304
engaging a slot 302 in a trip
arm 300 depending from a
lateral pin 298 on a member
286 secured to the shaft 280.
The weighted arm is urged to
the right by a spring 290 and
its free or outer end carries a
lateral bar 324 from which
depends a rod 326 that rests
upon one end of a plate 328
the other end of which is
pivoted between webs 329 on
the housing 254. The plate
328 fits over the shaft 258
and has lugs 338 that rest
upon the sleeve 240 so that
pivotal movement of the plate
effects suppression of the
sleeve. In operation,
assuming that it is desired to
dispense 100 gallons of
liquid and begin closure of
the **valve** member 117 when
90 gallons have been
discharged, the digit wheels
2501, 250<SP>11</SP>, 251
on the shaft 256 are adjusted
by the knob 322 so that the
numerals 1, 0, 0 show
through the window 316 of
the register 37, the wheel 250
also showing 0, and the **valve**
member is opened against its
spring 126 by the hand-lever
132 and held in the fully open
position by the engagement of
the notched pin 202. with the
edge 232 of the lever 162
until 90 gallons have been
dispensed. During this time,
the shaft 258 is operated by
the liquid flow through the
meter 30 and through the
gearing 260, 262, 266, 268,
270, 272, 274 operates the
shafts 276, 256 until the
numerals 1, 0 on the digit
wheels 250<SP>11</SP>, 251

appear at the window. At this time, the recesses 314, 3141 in the cams of the wheels 250, 250<SP>1</SP> are opposite the cam followers 296, 296<SP>1</SP>, Fig. 24, but the recess 314<SP>11</SP> in the cam 312<SP>11</SP> of the wheel 250<SP>11</SP> is not in line with the recesses 314, 314<SP>1</SP> so that the cam 312<SP>11</SP> is in contact with its follower 296<SP>11</SP> and through this maintains the arm 282 in a position in which the rod 326 is held above the plate 328 and thus allows the latch-release plate 198 to hold the pin 202 in engagement with the lever 162. As the flow through the meter continues the numerals 1, 0 on the wheels 250<SP>11</SP>, 251 change to 0, 9 and the nose 320 of the trip arm 300 drops on to the part 318<SP>11</SP> of the cam 318 thus permitting clockwise movement of the arm 282 and downward movement of the rod 326 on to the plate 328 which depresses the sleeve 240 and turns the plate 198 on its shaft 200 so as to disengage the pin 202 from the edge 232 of the lever 162 and initiate the second stage of the closure. During the second stage, the lever 162 swings so that its bevelled edge 238 engages and turns the arm 222 until it abuts the side of the aperture 218 and so terminates this stage. At this time the part 3181 of the cam 318 engages the nose 320 of the trip arm 300 and through the arm 282 raises the rod 326 and thus allows the plate 198 to turn and raise the arm 222 from engagement with the aperture

218 and at the same time move the notched pin 202 through the aperture 170 into a position in which it is engaged by the edge 234 of the lever 162. As the last **gallon** of liquid is dispensed, the nose 320 of the arm 300 falls on to the part 318<SP>11</SP> of the cam 318 and the rod 326 again mo

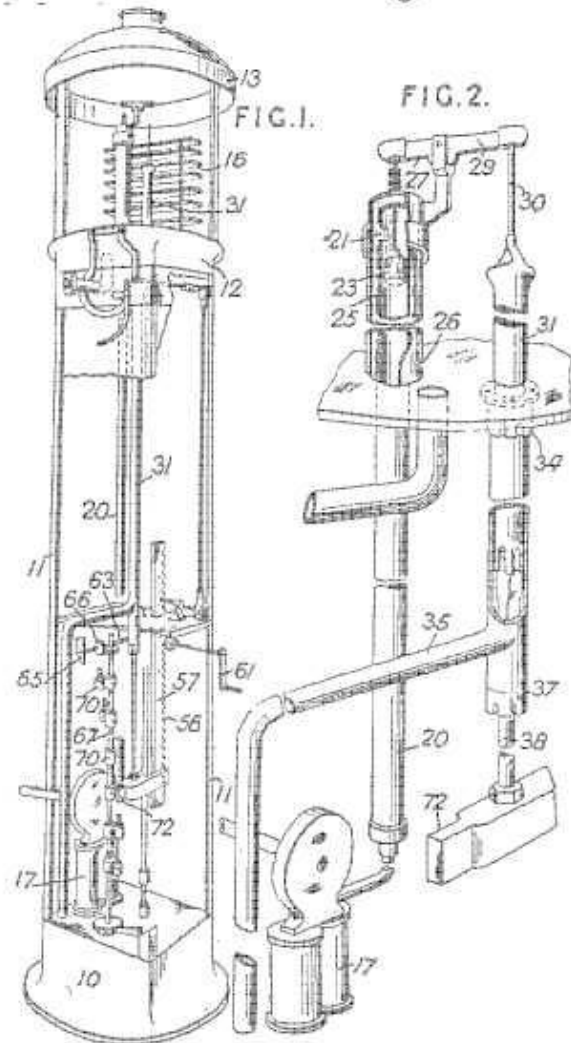
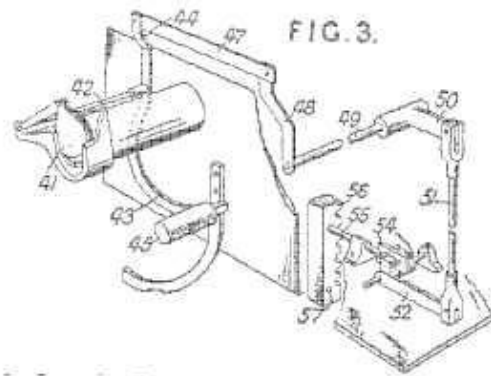
8/11 © EPODOC / EPO

PN - [GB609700](#) A 19481005
 PR - GB19460008745 19460321
 AP - GB19460008745 19460321
 DT - *
 CCI - [F23D11/001](#)
 PA - GILBERT & BARKER MFG CO
 TI - Oil burners
 AB - 609,700. Oil burners. TRIGGS, W. W. (Gilbert & Barker Manufacturing Co.). March 21, 1946, No. 8745. [Class 75 (1)] [Also in Group XXIV] A gun type oil burner for hot water and domestic heaters comprises an electrically driven pump and a fan supplying oil and air to a pressure atomizing nozzle 12 and a cylinder 3 respectively, the cylinder 3 enclosing a perforated cylinder 14 from which jets of air impinge radially on the atomized fuel issuing from the nozzle 12 so that combustion initiated at electrodes 15 starts inside the space B. The cylinder 14 is closed at its rear end by a member 13 which may be formed with openings fitted with sliding covers for supplying additional air to assist in breaking up the oil spray. The member 13 may be adjustable on the oil supply pipe 11. The electric motor drives the fan directly and the



oil pump through a centrifugal clutch (see Group XXIV) so that oil is not supplied until the fan is in substantially full operation. The oil pressure is maintained constant by a spring-pressed bye-pass **valve** 30a shown in Fig. 7 fitted to the oil supply pipe 11. The **valve** 30a opens when the limiting pressure is reached to allow oil to pass from a passage 31 through registering openings 32, 33 to a passage 34 connected to the suction side of the pump. The limiting pressure may be adjusted by turning a screw 36 normally covered by a sealing **cap** 37 to vary the compression of a spring 35. The burner shown enables an atomizing nozzle having g tangential grooves leading to an orifice of a size designed to deliver about 1 **gallon** an hour when oil is supplied at 100 lbs. per sq. in. pressure to be used to burn oil at 25 lbs. per sq. in. pressure with a consumption of **gallon** an hour.

PN - [GB267097](#) A 19270526
 PR - AUX267097 19260303
 AP - GB19270003423 19270207
 DT - *
 CCI - [B67D7/163](#)
 PA - CECILLYTTELTON HAWKINS
 TI - Improvements in machines
 for dispensing measured
 quantities of liquid fuel
 AB - 267,097. Hawkins, C. L. March
 3, 1926, [Convention date].
 Fixed-chamber apparatus,
 varying quantity measured in.
 - An apparatus for retailing
 measured volumes of petrol,
 benzine, lubricating oil, and
 like liquids comprises an
 overflow pipe with adjusting-
 means, designed to facilitate
 the sale of various quantities,
 interlocked with the
 delivery **valve**. Fig. 1 shows an
 aparatus, without its casing,
 comprises a base 10
 supporting a framing 11 and
 head 12, above which is a
 glass measuring-vessel, not
 shown, and a **cap** 13. Inside
 the glass vessel is a gang of
 knife blades 16, set at various
 levels corresponding to the
 various volumes, for
 instance, gallons, to be sold.
 A semi-rotary or plunger
 pump 17 delivers fuel through
 a pipe 20 to the measuring-
 vessel the liquid filling the
 vessel to the level of an
 adjustable overflow pipe 31,
 raised to its upper limit. To
 retail any desired quantity, a
 spindle 63 is rotated until the
 word " Full " is shown on the
 dial 65 at each end of it. This
 movement rotates also a
 vertical spindle 67 with
 quantity stops 70, all of
 which are thus moved out of
 the path of a striker 72 on a
 rack 56, which, together with
 the pipe 31, is raised by the
 handle 61. In the top position



the tappet rod 30 on the top of the tube 31 strikes a lever 29, compressing the spring 27 and forcing down the slide **valve** 23. The pump 17 is then operated to pump liquid up the pipe 20 into the measuring-chamber, which it enters through the ports 21 the annulus 25, and ports 26; excess liquid flows back through the tubes 31, 35. and the container so filled to its limit, say six gallons. To retail say two gallons, the operator rotates the spindle 63 to the twogallon indications on the dials 65, bringing the two **gallon** quantity stop 70 into the path of the striker 72 as the rack 56 is moved down; liquid in excess of two gallons then runs back to the tank. The delivery **valve** 41, Fig. 3, is now opened by the lever mechanism 42 - - 45, which also, by means of the mechanism 47 - . 54, shoots the bolt 55 into one of the holes 57 in the rack 56, so that the rack is locked while the delivery **valve** is open. The **valve** 23, Fig. 2, is closed as soon as the slide tube 31 is depressed, so that liquid cannot be pumped into the measuring-chamber while the delivery **valve** is open. The tube 31 slides through a gland 34, and is adjusted by a rod 38 passing through a stuffing-box 37. Indicating and metering devices are fitted.

PN - [GB524570](#) A 19400809

PR - GB19390003380 19390201

AP - GB19390003380 19390201

DT - *

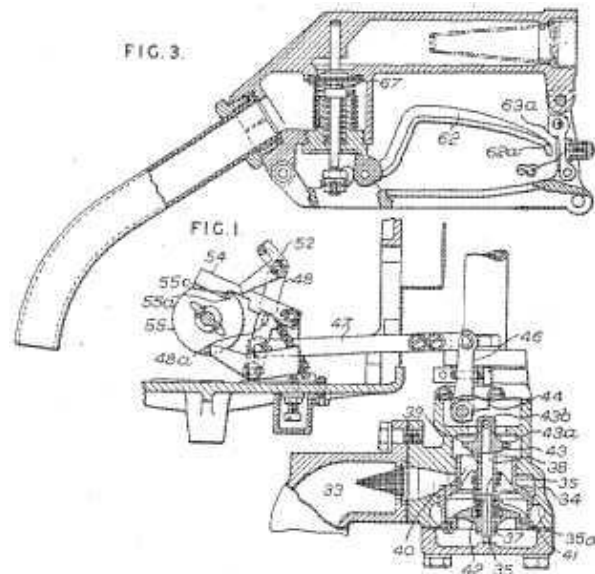
CCI - [B67D7/42](#)

IDT - 42E21D

PA - AVERYHARDOLLTD;JOHN FRASER

TI - Improvements relating to liquid measuring and dispensing apparatus

AB - 524,570. Dispensing liquids. AVERY-HARDOLL, Ltd., and FRASER, J. Feb. 1, 1939, No. 3380. [Class 116] [Also in Group XXIX] In liquid-measuring and dispensing apparatus of the flow-meter type in which there is provided under the direct control of the operator means for imposing a check on delivery and means under the control of the indicator mechanism for automatically effecting cessation of delivery at a predetermined position of the indicator mechanism subsequent to the imposition of the check or delivery, there is provided means permitting a seepage of liquid past a cut-off **valve**, thereby allowing it to reopen so that upon a re-opening of the control **valve** in the dispensing nozzle renewed delivery can take place. The invention is a modification of the form of apparatus described with reference to Fig. 4 in Specification 478,129. The outlet 33 from the meter leads into a housing 34 within which is a slidable cylindrical flow **valve** 35 having a finned skirt 35a of greater diameter than the upper portion. A **valve** rod 38 slidably mounted within a sleeve 39 connected to



the **valve** 35 by radial members 40 carries at its upper end a cut-off **valve** 43 with a notch 43a to permit of a seepage flow and at its lower end a control **valve** 37. A relatively weak spring 41 is positioned between the **valve** 37 and the **valve** 35 and a relatively strong spring 42 between the **valve** 37 and a collar on the rod 38. Above a **cap** 43b on the upper end of the rod 38 is an arm 44 on the spindle of a crank arm 46 connected by a link 47 to a trip arm 48 carrying a projection 48a and a pawl 52 adapted to co-operate respectively with a locking arm 54 and a cam 55 on the gallons shaft of the indicating mechanism. The delivery nozzle includes a trigger lever 62 formed at the end with a stepped section 62a which co-operates with the head 63a of a detent 63 so as to give during the range' of movement of the lever, a position at which the operator feels a greater resistance to movement. In this position the **valve** 67 is open only sufficient to give a dribble flow. In operation, when the delivery **valve** 67 is opened, pressure on the unbalanced lower portion of the **valve** 35 causes this **valve** to move downwardly thus allowing a flow through the housing 34 and also preventing a closing of the cut-off **valve** 43 due to the pressure on the lower sides of valves 43 and 37. When the required quantity of liquid has been delivered to within the last **gallon**, the operator allows the lever 62 to move to the dribble flow position. When the rate of flow is

reduced, the **valve** 35 moves upwards and is followed by a corresponding movement of the valves 37 and 43 to a position where the **cap** 43b abuts the arm 44. As delivery of the last half **gallon** proceeds, a pin 55a on the cam lifts the locking arm 54 and a movement of the trip arm 48 takes place but is arrested by the nose of the pawl 52 contacting the periphery of the cam disc. When the prescribed quantity has been delivered, the nose comes into register with a flat 55c on the cam and the arm 48 moves sufficient to allow the closing of the cut-off **valve** 43 under the influence of the spring 42. Seepage through the notch 43a restores the balance of pressure thereby enabling the valves 35, 37 and 43 to return to their normal positions so that, if the pump is still operating, a further quantity may be delivered by fully depressing the delivery **valve** lever 62.

chamber 64 fitted with an outlet pipe 66 until the level X-X is reached, siphoning being prevented by a pipe 190 which extends from the chamber 64 to the top of the reservoir 26. A handle 106 movable round a dial 108 drives a pinion 102 meshing with teeth 104 on the rod 96 to move the discharge pipe, and the rod 96 works in sleeves 114, 116 screwed into a housing 112 surrounding the pinion 102, a gland being provided for the spindle 100 of the handle 106 to prevent escape of liquid. Stops 120 on the dial 108 set the handle, which is made in two parts hinged together to enable it to pass over all the stops but the last one. A detent may be provided at the " zero " position to lock the handle. A cam 160 on the spindle 100 engages a lever 176 pivoted to a clutch lever 168 to hold a clutch member 166 on the pumpoperating shaft 44 out of engagement with a second member 164 until the pipe 168 is in its uppermost position, when the lever falls on to a flat portion of the cam and enables the pump to be driven. The amount delivered is registered on a totalizer 140 by means of a lever 156 carrying a detent 158 which falls into notches corresponding with the stops 120 in a plate 160 on the spindle 100. On a clockwise movement of the handle, each notch passed causes **-gallon** to be registered simultaneously with each **gallon** delivered, and on the return of the handle when the reservoir is emptied registers the **-gallon** outstanding. A well 78 at the

base of the reservoir is drained by a pipe 204 in the base of which is a **valve** 214 raised by means of a plunger 220. This plunger is always operated when a cover 224 is placed over the protruding end of the shaft 44 to lock the apparatus, a pin 226 on the cover engaging the end of the plunger. A vent pipe 198 is closed when excess liquid is delivered to the chamber 26 by means of a **valve** 192 carried by a float 194 working in a casing. The quantity delivered may be indicated by markers adjustably mounted on one of the tie-rods holding the **cap** and the base of the glass cylinder together, and the reservoir 26 may be made of opaque material with transparent inserts through which the level of the liquid can be observed.