



New connection on: : 26-07-2017 : 16:56:22 - Last disconnection on: : 25-07-2017 : 20:33:14

V 4.0.0.43847(LP,U,linux) (Rev:41675 2016-01-15 13:33:59 +0100#(D201706)) (RPM D201706)

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[No database/cluster active] ..fi epodoc

 Database: EPODOC

[EPODOC: SS 1] (bottle or container) and vacuum

Results in EPODOC **45.174**

[SS 2] 1 and base

Results in EPODOC **3.066**

[SS 3] 2 and ring

Results in EPODOC **302**

[SS 4] 3 and closure

Results in EPODOC **21**

[SS 5] ..v

[EPODOC: SS 5] ..li 1-10



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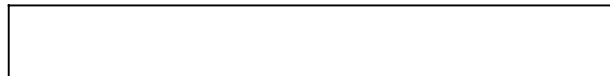
PN - [MX2015010981](#) A 20151026

PR - US201313835014
20130315; WO2014US20970
20140306

AP - MX20150010981 20140306

DT - I

CCI - [B65D51/145](#) ; [B65D51/1688](#) ;
[B65D53/02](#)



CUI - [B65D45/02](#) ; [B65D45/305](#)

PA - OWENS BROCKWAY GLASS CONTAINER [US]

TI - **VACUUM** RELEASE SEAL FOR A **CLOSURE** AND **CONTAINER** PACKAGE.

AB - A seal (16, 1 16, 216) for sealing engagement between a **closure** and a **container**. A projection (24, 124) is coupled to a seal **ring** (22, 122) having a sealing portion (60), extends circumferentially and radially outwardly of the seal **ring**, and has a **closure**-driven feature (64, 164, 264) engageable by the **closure** when the **closure** is rotated on the **container** in a loosening direction to unseat the seal **ring** from sealing engagement between the **container** and the **closure**.
The seal may be part of a package (10, 310) and sealingly engaged between a sealing surface (42) of a **container** (12) of the package and a **base** (20, 348) of a **closure** (14, 114, 314) of the package when the **closure** is secured to the **container**.

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PN - [CA2898760](#) A1 20140925

PR - US201313835014 20130315; WO2014US20970 20140306

AP - CA20142898760 20140306

DT - I

CCI - [B65D51/145](#) ; [B65D51/1688](#) ; [B65D53/02](#)

CUI - [B65D45/02](#) ; [B65D45/305](#)

PA - OWENS BROCKWAY GLASS CONTAINER [US]

TI - **VACUUM** RELEASE SEAL FOR A **CLOSURE** AND **CONTAINER** PACKAGE

AB - A seal (16, 1 16, 216) for sealing engagement between a **closure** and a **container**. A projection (24, 124) is coupled to a seal **ring** (22, 122) having a sealing portion (60), extends circumferentially and radially outwardly of the seal **ring**, and has a **closure**-driven feature (64, 164, 264) engageable by the **closure** when the **closure** is rotated on the **container** in a loosening direction to unseat the seal **ring** from sealing engagement between the **container** and the **closure**. The seal may be part of a package (10, 310) and

sealingly engaged between a sealing surface (42) of a **container** (12) of the package and a **base** (20, 348) of a **closure** (14, 114, 314) of the package when the **closure** is secured to the **container**.

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PN - [AU2014237865](#) A1 20150716

PR - US201313835014
20130315; WO2014US20970
20140306

AP - AU20140237865 20140306

DT - I

CCI - [B65D51/145](#) ; [B65D51/1688](#) ;
[B65D53/02](#)

CUI - [B65D45/02](#) ; [B65D45/305](#)

PA - OWENS BROCKWAY GLASS
CONTAINER

TI - **Vacuum** release seal for
a **closure** and **container** package

AB - A seal (16, 1 16, 216) for sealing
engagement between a **closure**
and a **container**. A projection
(24, 124) is coupled to a
seal **ring** (22, 122) having a
sealing portion (60), extends
circumferentially and radially
outwardly of the seal **ring**, and
has a **closure**-driven feature (64,
164, 264) engageable by
the **closure** when the **closure** is
rotated on the **container** in a
loosening direction to unseat the
seal **ring** from sealing
engagement between
the **container** and the **closure**.
The seal may be part of a
package (10, 310) and sealingly
engaged between a sealing
surface (42) of a **container** (12)
of the package and a **base** (20,
348) of a **closure** (14, 114, 314)
of the package when the **closure**
is secured to the **container**.



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PN - [TW201502026](#) A 20150116

PR - US201313835014 20130315

AP - TW20140109007 20140313

DT - I

CCI - [B65D51/145](#) ; [B65D51/1688](#) ; [B65D53/02](#)

CUI - [B65D45/02](#) ; [B65D45/305](#)

PA - OWENS BROCKWAY GLASS CONTAINER [US]

TI - **Vacuum** release seal for a **closure** and **container** package

AB - A seal (16, 116, 216) for sealing engagement between a **closure** and a **container**. A projection (24, 124) is coupled to a seal **ring** (22, 122) having a sealing portion (60), extends circumferentially and radially outwardly of the seal **ring**, and has a **closure**-driven feature (64, 164, 264) engageable by the **closure** when the **closure** is rotated on the **container** in a loosening direction to unseat the seal **ring** from sealing engagement between the **container** and the **closure**. The seal may be part of a package (10, 310) and sealingly engaged between a sealing surface (42) of a **container** (12) of the package and a **base** (20, 348) of a **closure** (14, 114, 314) of the package when the **closure** is secured to the **container**.

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PN - [US2014263321](#) A1 20140918

PNFP - US9051088 B2 20150609

PR - US201313835014 20130315

AP - US201313835014 20130315

DT - *; Rep

CT - || STSE (B2)
[US2244316](#) A 19410603 [] (ROBERTSON WILLIAM M)
[US3052478](#) A 19620904 [] (HORVEREID WELLS J)
[US3603472](#) A 19710907 [] (LECINSKI FRANK H JR, et al)
[US3924772](#) A 19751209 [] (MAGNANI EUGENIO)
[US5551705](#) A 19960903 [] (CHEN COLIN [US], et al)
[US5697513](#) A 19971216 [] (MOLODYI VADIM A [US])
[US7690527](#) B2 20100406 [] (ENGLUND GARY [US])
[US8550268](#) B1 20131008 [] (CHISHOLM BRIAN J [US])
[US2010126304](#) A1 20100527 [] (SAHM DIETMAR [DE], et al)
[US2010140881](#) A1 20100610 [] (MATSUO TAKESHI [JP])
[US2011193298](#) A1 20110811 [] (YOSHITSUNE SHUJI [JP], et al)
- || R141 (A1)
[US3924772](#) A [];
[US3052478](#) A []

CCI - [B65D51/145](#) ; [B65D51/1688](#) ; [B65D53/02](#)

CUI - [B65D45/02](#) ; [B65D45/305](#)

PA - (A1)
OWENS BROCKWAY GLASS CONTAINER [US]; OWENS BROCKWAY GLASS CONTAINER [US]
- (B2)
OWENS BROCKWAY GLASS CONTAINER [US]

TI - (A1 B2)
Vacuum Release Seal For A **Closure** And **Container** Package

AB - (A1 B2)
 A seal for sealing engagement between a **closure** and a **container**. A seal **ring** has a sealing portion. A projection is coupled to the seal **ring**, extends circumferentially and radially outwardly of the seal **ring**, and has a **closure**-driven feature engageable by the **closure** when the **closure** is rotated on the **container** in a loosening direction to unseat the seal **ring** from sealing engagement between the **container** and the **closure**. The seal may be part of a package and sealingly engaged between a sealing surface of a **container** of the package and a **base** of a **closure** of the package when the **closure** is secured to the **container**.

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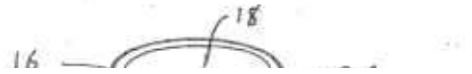
PN - [WO2014149796](#) A1 20140925
 PR - US201313835014 20130315
 AP - WO2014US20970 20140306
 DT - **
 CT - |EP| ISR (A1)
[US2244316](#) A 19410603
 [XDA] (ROBERTSON WILLIAM M)
 [XD] 1,11
 * page 1, paragraph 2; figures 1,2 *
 [A] 2-10,12-15
 CCI - [B65D51/145](#) ; [B65D51/1688](#) ;
[B65D53/02](#)
 CUI - [B65D45/02](#) ; [B65D45/305](#)
 PA - OWENS BROCKWAY GLASS
 CONTAINER [US]
 TI - **VACUUM** RELEASE SEAL FOR
 A **CLOSURE** AND **CONTAINER**
 PACKAGE
 AB - A seal (16, 1 16, 216) for sealing engagement between a **closure** and a **container**. A projection (24, 124) is coupled to a seal **ring** (22, 122) having a sealing portion (60), extends circumferentially and radially outwardly of the seal **ring**, and has a **closure**-driven feature (64, 164, 264) engageable by the **closure** when the **closure** is rotated on the **container** in a loosening direction to unseat the seal **ring** from sealing engagement between the **container** and the **closure**. The seal may be part of a



package (10, 310) and sealingly engaged between a sealing surface (42) of a **container** (12) of the package and a **base** (20, 348) of a **closure** (14, 114, 314) of the package when the **closure** is secured to the **container**.

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PN - [US2006186082](#) A1 20060824
 PNFP - US7748551 B2 20100706
 PR - US20050061293 20050218
 AP - US20050061293 20050218
 DT - *; Rep
 CT - || R141 (A1)
[USD262521S](#) S 00000000 [];
[USD313750S](#) S 00000000 [];
[US5178289](#) A 19930112 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5178290](#) A 19930112 [] (OTA AKIHO [JP], et al);
[US5279433](#) A 19940118 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[USD366416S](#) S 00000000 [];
[USD366417S](#) S 00000000 [];
[US5704503](#) A 19980106 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5704504](#) A 19980106 [] (BUENO CARLOS EDUARDO DE SIQUEI [BR]);
[US6016932](#) A 20000125 [] (GAYDOSH KEVIN D [US], et al);
[US2004000533](#) A1 20040101 [] (KAMINENI SATYA [US], et al);
[USD80447S](#) S 00000000 [];
[US4805788](#) A 19890221 [] (AKIHO OTA [JP]);
[USD366831S](#) S 00000000 [];
[USD419882S](#) S 00000000 [];
[USD420592S](#) S 00000000 [];
[US6347717](#) B1 20020219 [] (EBERLE THEODORE F [US]);
[USD502108S](#) S 20050222 [] (GAMEL MELISSA J [US], et al);
[US4907709](#) A 19900313 [] (ABE



MORIO [JP], et al);
[US5092475](#) A 19920303 [
] (KRISHNAKUMAR SUPPAYAN M
 [US], et al);
[US6036037](#) A 20000314 [
] (SCHEFFER STEVEN M [CA], et al);
[US2005045645](#) A1 20050303 [
] (TSUTSUI NAOKI [JP], et al);
[US2005051509](#) A1 20050310 [
] (BYSICK SCOTT [US], et al);
[US2006054587](#) A1 20060316 [
] (OGUCHI HIROKI [JP], et al);
[US4824787](#) A 19890425 [
] (SERKES JONATHAN M [US], et
 al);
[US5005716](#) A 19910409 [
] (EBERLE TOD F [US]);
[USD315869S](#) S 00000000 [];
[US5303833](#) A 19940419 [
] (HAYASHI YOSHIAKI [JP], et al);
[US5303834](#) A 19940419 [
] (KRISHNAKUMAR SUPPAYAN M
 [US], et al);
[USD345693S](#) S 00000000 [];
[US5407086](#) A 19950418 [] (OTA
 AKIHO [JP], et al);
[USD393802S](#) S 00000000 [];
[US6044996](#) A 20000404 [
] (CAREW DAVID LEE [AU], et al);
[USD472470S](#) S 20030401 [
] (BRETZ JOHN [US], et al);
[US7021479](#) B2 20060404 [
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[US316964](#) A 18850505 [];
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[USD316967S](#) S 00000000 [];
[USD316968S](#) S 00000000 [];
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] (EBERLE THEODORE F [US]);
[US5222615](#) A 19930629 [] (OTA
 AKIHO [JP], et al);
[US5908127](#) A 19990601 [
] (WEICK ROBERT D [US], et al);
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] (KRISHNAKUMAR SUPPAYAN M
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] (UNGRADY ERIC B [US], et al);

[US5224614](#) A 19930706 [
] (BONO JAMES L [US], et al);
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] (OGG RICHARD K [US], et al);
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[US6920992](#) B2 20050726 [
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[US2006157438](#) A1 20060720 [
] (LIVINGSTON JOHN J [US], et al);
[USD318799S](#) S 00000000 [];
[US5337909](#) A 19940816 [
] (VAILLIENCOURT DWAYNE [US]);
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] (VAILLIENCOURT DWAYNE G
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[USD413519S](#) S 00000000 [];
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] (CHENG JIZU JOHN [US], et al);
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] (BOYD TIMOTHY J [US]);
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] (DEGROFF JAMIE W [US]);
[US4877141](#) A 19891031 [
] (HAYASHI YOSHIAKI [JP], et al);
[US5054632](#) A 19911008 [
] (ALBERGHINI ALFRED C [US], et
al);
[USD321136S](#) S 00000000 [];
[US5971184](#) A 19991026 [
] (KRISHNAKUMAR SUPPAYAN M
[US], et al);
[US6131732](#) A 20001017 [
] (SCHNEIDER PAUL W [US]);
[US6460714](#) B1 20021008 [
] (SILVERS KERRY W [US], et al);
[USD480313S](#) S 20031007 [
] (JOHNSON STEPHEN M [US], et
al);
[US2004200799](#) A1 20041014 [
] (YOURIST SHELDON [US], et al);

[USD497551S](#) S 20041026 [] (GAMEL MELISSA J [US], et al);
[USD321830S](#) S 00000000 [];
[US5261543](#) A 19931116 [] (UGARELLI RENATO [IT]);
[USD352238S](#) S 00000000 [];
[USD352245S](#) S 00000000 [];
[US5690244](#) A 19971125 [] (DARR RICHARD C [US]);
[US5975342](#) A 19991102 [] (BRADEEN STEPHEN E [US], et al);
[USD434330S](#) S 00000000 [];
[US5472105](#) A 19951205 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US6164474](#) A 20001226 [] (CHENG JIZU JOHN [US], et al);
[US6830158](#) B2 20041214 [] (YOURIST SHELDON [US])
- || STSE (B2)
[USD80447S](#) S 00000000 [];
[US4824787](#) A 19890425 [] (SERKES JONATHAN M [US], et al);
[US5178289](#) A 19930112 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5224614](#) A 19930706 [] (BONO JAMES L [US], et al);
[US5279433](#) A 19940118 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5303834](#) A 19940419 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5407086](#) A 19950418 [] (OTA AKIHO [JP], et al);
[US5472105](#) A 19951205 [] (KRISHNAKUMAR SUPPAYAN M [US], et al);
[US5704504](#) A 19980106 [] (BUENO CARLOS EDUARDO DE SIQUEI [BR]);
[US5908127](#) A 19990601 [] (WEICK ROBERT D [US], et al);
[USD413519S](#) S 00000000 [];
[US5975342](#) A 19991102 [] (BRADEEN STEPHEN E [US], et al);
[US6131732](#) A 20001017 [

] (SCHNEIDER PAUL W [US]);
[US6164474](#) A 20001226 [
] (CHENG JIZU JOHN [US], et al);
[US6257433](#) B1 20010710 [
] (OGG RICHARD K [US], et al);
[US6585125](#) B1 20030701 [
] (PEEK WILLIAM JEROME [US]);
[USD494475S](#) S 20040817 [
] (THIERJUNG GEORGE [US], et al);
[US6830158](#) B2 20041214 [
] (YOURIST SHELDON [US]);
[US7021479](#) B2 20060404 [
] (PEDMO MARC A [US], et al);
[US2004000533](#) A1 20040101 [
] (KAMINENI SATYA [US], et al);
[US2004200799](#) A1 20041014 [
] (YOURIST SHELDON [US], et al);
[US2005045645](#) A1 20050303 [
] (TSUTSUI NAOKI [JP], et al);
[US2005051509](#) A1 20050310 [
] (BYSICK SCOTT [US], et al);
[US2006054587](#) A1 20060316 [
] (OGUCHI HIROKI [JP], et al);
[US2006157438](#) A1 20060720 [
] (LIVINGSTON JOHN J [US], et al)

CCI - [B65D1/0223](#) ; [B65D79/005](#)

PA - (A1)
 BALL CORP

- (B2)
 BALL CORP [US]

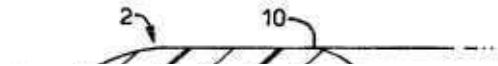
TI - (A1 B2)
 Hot fill **container** with restricted
 corner radius **vacuum** panels

AB - (A1 B2)
 A thin walled, plastic hot-
 fill **container** has a finish to
 receive a **closure**, a neck
 supporting the finish, a shoulder
 situated below the neck, a **base**,
 and a body between the shoulder
 and **base**. The body includes
 upper and lower margins
 defining a label mount area that
 includes a plurality of inwardly
 recessed **vacuum** panels
 separated by vertical posts. At
 least one indented
 reinforcing **ring** separates the

upper and lower edges of the **vacuum** panels from the adjacent margins of the label mount area by a distance D. Each **vacuum** panel includes an inclined upper and lower margin of height H that is greater than distance D, and has corners defined by radius R, which is less than or equal to D. Lateral margins of each **vacuum** panel extend vertically between the corners and connect the adjacent posts to a central depressed region, each lateral margin being essentially perpendicular to the adjacent surface of the **vacuum** panel.

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- PN - [WO9923007](#) A1 19990514
- PR - GB19970022898 19971030
- AP - WO1998GB03075 19981012
- DT - *; Rep
- CT - |EP| ISR (A1)
[WO9313990](#) A1 19930722
 [XA] (ANCHOR HOCKING PACKAGING [US])
 [X] 1,2
 * page 30, line 13 - page 33, line 25; figures 1,2,5 *
 [A] 3;
[EP0366617](#) A2 19900502
 [A] (ITALCAPS SPA [IT])
 [A] 1-3
 * column 3, line 51 - column 4, line 14; figure - *;
[FR2314872](#) A1 19770114
 [A] (MASSILLYUSINE METALLURG [FR])
 [A] 3
 * page 2, line 36 - page 3, line 23; figure 1 *
 CCI - [B65D51/145](#)
 PA - CROWN CORK & SEAL TECH CORP [US]; METAL BOX PLC [GB]; COLLINS MALCOLM GEORGE [GB]



TI - **VACUUM CLOSURES**

AB - A press-on/pry-off **vacuum closure** in combination with a **container** body (1) comprises a moulded plastics **ring** (8) having a downwardly dependent skirt portion (9). The skirt portion includes a channel (12) having a substantially horizontal **base** (16). The **closure** further includes a metal disc (7) with a down turned rim (14) having an outwardly turned component such as an outer curl (19). A periphery of the metal disc lies on the horizontal **base** of the channel (12) such that the **closure** can be removed from the **container** body by pressing upwardly on the plastics skirt portion (9). The **closure** can be removed with an opening force of less than 50N, despite the presence of a **vacuum** of less than 0.8 atm (24 inches Hg) within the **container**.

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PN - [GB1211719](#) A 19701111

PR - DE1966S107518 19661221

AP - GB19670057748 19671220

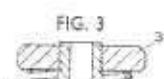
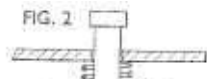
DT - *

CCI - [B65B7/2878](#) ; [B65B7/28](#)

PA - SEITZ WERKE GMBH [DE]

TI - IMPROVEMENTS IN AND RELATING TO **CLOSURE MEMBERS** FOR CONTAINERS

AB - 1,211,719. Sealing covers to containers. SEITZ-WERKE G.m.b. H. 20 Dec., 1967 [21 Dec., 1966], No. 57748/67. Heading B8C. A plastics cover is sealed to a **container** mouth by plasticizing it, bringing the mouth into contact with it and then using **vacuum** to draw cover material extending beyond the



mouth against the **container** neck or rim. In one embodiment, the **container** 10 is placed in a holder 14, initially resting on the **base** of a cylinder 13 and the cover 12, which may be part of a web or a separate disc, placed over the cylinder mouth. It is then secured by an annular clamp 18 and a heater is sited above it temporarily. The heater is replaced by a spring-loaded plate 20 and the holder 14 is raised to press the **container** against the film and the plate. As the holder rises a low pressure space 15 is created which is in communication with the space between the **container** rim and the film margin. The margin is therefore drawn against the rim. In another embodiment, the **container** 10a is supported on a plate 16 with its neck surrounded by an annulus 21 having a seal **ring** 26 abutting the **container**. Prior to positioning the **container**, a cover 12 is placed on the annulus and heated as before from beneath the latter. A chamber 18 seats on the annulus from above and contains a piston 28 having a hollow shaft 30 through which its interior communicates with the atmosphere. When the **container** is in position beneath the heated cover, the piston 28 descends, pushing the cover on to the **container** mouth and about its rim. In so doing, it creates a low pressure space behind it which communicates with the space 22 about the **container** neck, via passages 23, 24, 27. The cover material is thus drawn against the neck.

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PN - [GB1248974](#) A 19711006
PR - GB19680050538 19681024
AP - GB19680050538 19681024
DT - *
CCI - [B65D39/04](#) ; [B65D81/20](#)
PA - BULPITT AND SONS LTD
TI - IMPROVEMENTS IN SEALED
CONTAINERS
AB - 1,248,974. **Closure** for
pressurized or
evacuated **container**. BULPITT &
SONS Ltd. 20 Oct., 1969 [24 Oct.,
1968], No. 50538/68. Headings
B8C and B8T. A **container** has a
body 10 provided at one end
with a lid 15 adapted to make a
seal with a sealing element 14
located in a peripheral recess 13
which faces itself across the
interior of the body, the opposite
end being provided with a
stoppered hole 11. The **container**
may be pressurized, Fig. 1, or
evacuated, Fig. 2 (not shown), the
lid 15 having a stepped
peripheral lip 16 which forms a
seal with an O **ring** 14 located in
the peripheral recess, the lid
being held in sealing position by
the pressure difference. A
plastics, apertured spacer 18
and sponge rubber **ring** 19
restrain the contents, e.g. an
object 17, from moving. With the
lid 15 placed, lip downwards,
and the O **ring** 14 inserted in the
recess 13, a **base** plug 12 is
removed and gas, e.g. nitrogen, is
applied to the lid end of the
inverted **container** to force the
lid inwardly, and away from the
O **ring**, so purging the **container**.
The plug is then replaced
causing the pressure in
the **container** to rise until,
together with the pressure of the



sponge rubber **ring** on the lid, it is equal to the applied gas pressure, when the lid again abuts the sealing **ring**. If the **container** is to be evacuated the lid is placed with its lip facing upwards and is evacuated from that end, a spring bearing on top of the lid to hold it on to the O **ring** when the required **vacuum** is attained. Two O rings may be used with a reversible lid located between them. The plug 12 may be used to release the pressure or **vacuum**.