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(72) Inventors:
• **Makita, Masayuki**
Matsumoto-shi, Nagano (JP)
• **Takahashi, Masashi**
Kashiwa-shi, Chiba (JP)

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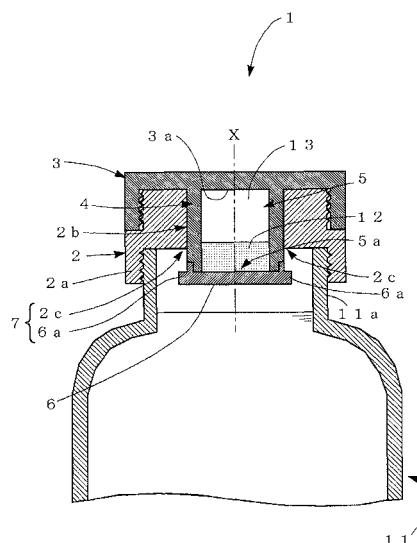
(74) Representative: **Smith, Norman Ian et al**
fJ CLEVELAND
40-43 Chancery Lane
London WC2A 1JQ (GB)

(71) Applicants:
• **Makita, Masayuki**
Matsumoto-shi, Nagano (JP)
• **Takahashi, Masashi**
Kashiwa-shi, Chiba (JP)

(54) **Closure member for a bottle**

(57) A bottle cap or closure member has a first fixed portion 2 and a second movable portion 3 which are separably screwed to each other. The fixed portion is for supporting the movable portion and has an attaching portion 2a for connection to the neck 11a of a bottle 11 and a through hole 2b on an axial line X. The removable portion has an inner plug portion 4 which protrudes from a face 3a thereof on the axial line and passes through and seals the through hole. The inner plug portion is provided with a chamber 5 for raw material 12 and pressurised gas 13. An opening 5a at the other end of the chamber is sealed by a plug 6. Between the plug and the fixed portion, there exists a plug opening means 7 and the plug is arranged to be opened by the plug opening means during relative movement of the fixed portion and the removable portion.

Fig. 1





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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 6 045 254 A (IGAL SHARON ET AL) 4 April 2000 (2000-04-04) * column 1, line 13 - line 15 * * column 9, paragraph 7 - paragraph 8 * * column 11, paragraph 2 * * column 18, line 29 - line 32 * * column 18, paragraph 6 *	1-4,7-11	B65D51/28 B65D81/32 B65D81/20
Y	US 4 203 517 A (STEIGERWALD FRANZ ET AL) 20 May 1980 (1980-05-20) * column 2, paragraph 10; figures 1-5 * * column 2, line 28 - line 31 * * column 2, line 31 - line 33 * * column 3, line 37 - line 39 * * column 3, paragraph 3 * * column 3, paragraph 6 * * column 4, line 59 - line 61 *	1-4,7-11	
A	EP 1 033 323 A (OREAL) 6 September 2000 (2000-09-06) * column 1, line 5 - line 6 * * column 3, paragraph 3 * * column 4, paragraph 2 * * column 4, line 24 - line 28 * * column 5, paragraph 9 * * column 6, line 57 - line 28 * * column 7, paragraph 4 - paragraph 5 * * column 9, paragraph 6 * * column 10, paragraph 4; figures 1-7 *	1-4,7-11	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D
A	US 4 386 696 A (GONCALVES ANTONIN) 7 June 1983 (1983-06-07) * figures 1-6 *	1,4,9-11	
A	US 3 891 125 A (MORANE BRUNO ET AL) 24 June 1975 (1975-06-24) * column 5, line 24 - line 27; figures 1-3 *	1,2,4	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 21 November 2002	Examiner Nistor, L
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EUROPEAN SEARCH REPORT

Application Number
EP 02 25 1642

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	WO 00 78632 A (FRUTIN BERNARD D ; ROCEP LUSOL HOLDINGS (GB)) 28 December 2000 (2000-12-28) * page 4, line 7 - line 11; figures 1,2 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	21 November 2002	Nistor, L

CATEGORY OF CITED DOCUMENTS

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21-11-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6045254	A	04-04-2000	US 6113257 A	05-09-2000
			US 6089389 A	18-07-2000
			AU 1575399 A	12-07-1999
			AU 731634 B2	05-04-2001
			AU 5876198 A	31-07-1998
			BR 9713791 A	08-02-2000
			CN 1247514 A ,B	15-03-2000
			CZ 9902322 A3	14-08-2002
			EP 0954484 A1	10-11-1999
			HU 0002936 A2	28-12-2000
			WO 9829317 A1	09-07-1998
			WO 9932065 A1	01-07-1999
			JP 2002501401 T	15-01-2002
			NZ 336540 A	25-05-2001
			PL 334338 A1	28-02-2000
			TR 9902196 T2	21-12-1999
US 4203517	A	20-05-1980	DE 2753737 A1	07-06-1979
			GB 2009089 A ,B	13-06-1979
			IT 1106411 B	11-11-1985
			JP 1139150 C	11-03-1983
			JP 54085880 A	07-07-1979
			JP 57030743 B	30-06-1982
EP 1033323	A	06-09-2000	FR 2789979 A1	25-08-2000
			EP 1033323 A1	06-09-2000
			JP 2000238858 A	05-09-2000
			US 6293395 B1	25-09-2001
US 4386696	A	07-06-1983	FR 2342914 A1	30-09-1977
			BE 851319 A1	10-08-1977
			CA 1057245 A1	26-06-1979
			CH 603435 A5	15-08-1978
			DE 2707464 A1	08-09-1977
			GB 1567394 A	14-05-1980
			IT 1073275 B	13-04-1985
US 3891125	A	24-06-1975	FR 2212815 A5	26-07-1974
			DE 2362963 A1	04-07-1974
			GB 1410570 A	15-10-1975
WO 0078632	A	28-12-2000	AU 5545600 A	09-01-2001
			AU 6359699 A	22-05-2000
			BR 0011828 A	19-03-2002
			CA 2346694 A1	11-05-2000
			CN 1355756 T	26-06-2002

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 25 1642

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The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-11-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0078632 A	CN	1325357 T	05-12-2001
	CZ	20011409 A3	17-07-2002
	EP	1185464 A1	13-03-2002
	EP	1124733 A1	22-08-2001
	WO	0078632 A1	28-12-2000
	WO	0026107 A1	11-05-2000
	JP	2002528352 T	03-09-2002
	NO	20016332 A	21-12-2001
	NZ	511195 A	25-10-2002
