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(84) Designated Contracting States: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR Designated Extension States: AL LT LV MK RO SI	(72) Inventor: Herrera Gomez, Francisco 08191 Hospitalet de Llobregat (ES)
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(54)

Bottle of thermoplastic material and method for the manufacture and filing of same

(57) The bottle is of a single-piece and comprises a main body (2) with a hermetically closing part (6) delimited by a weakening (7) of the material adjacent to the periphery of the mouth. The bottom part is constituted by a sheet of a thermoplastic material joined to the bottle body by thermowelding. The bottle is closed with a screw-on-cap (8), or a top (12), which are joined to the closing part (6) by means of an adhesive or glue (11).

The method comprises the stages of feeding a thermoplastic laminate to a thermoforming machine; heating the laminate to a predetermined temperature; inserting a preformed punch (17) into a negative mould (18) of the bottle (1), situated in inverted position, with the laminate (16) interposed between the punch and the mould; conforming the body (2) of the bottle by means of pressure or pneumatic vacuum; forming the weakening (7) and the closing part (6) by means of a punch (19); filling the bottle with the product (22) to be contained therein, by the upper opening (20) which will later be the bottom part of the bottle; and thermal weld a laminate (21) of thermoplastic material to the periphery of the said upper opening, determining the bottom part or base and the bottle, being therefore, finished and hermetically sealed.

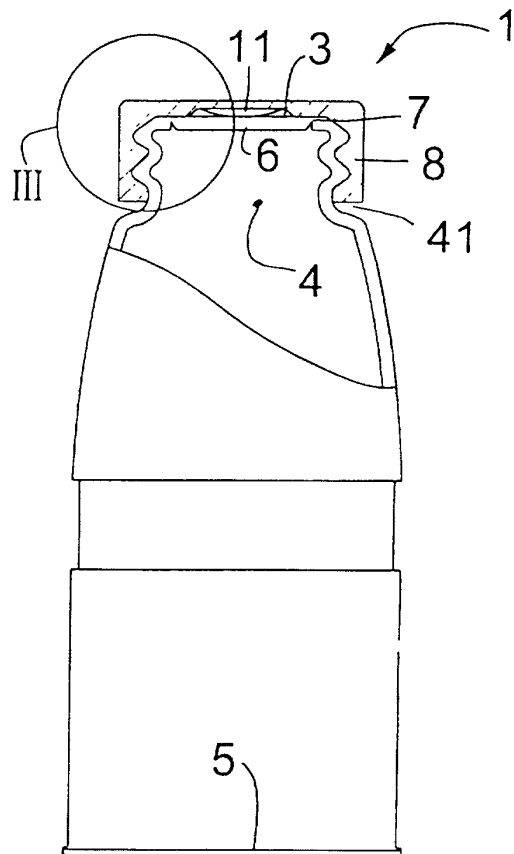


FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 01 50 0075

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)
X	GB 1 549 018 A (GATRUN ANSTALT) 1 August 1979 (1979-08-01) * page 1, line 10 - line 12 * * page 2, line 109 - line 114 * * page 2, line 122 - line 124 * * page 4, line 9 - line 25 * * figures 1-6,10-12 * ---	1,2, 7-10,12	B65D8/02
X	GB 1 353 360 A (HARILD N) 15 May 1974 (1974-05-15) * page 1, line 38 - line 48 * * page 1, line 64 - line 67 * * page 1, line 83 - line 85 * * figures *	1	
Y	---	2	
Y	US 5 562 226 A (VALYI EMERY I ET AL) 8 October 1996 (1996-10-08) * column 4, line 46 - line 67 * * column 5, line 13 - line 22 * * figures 7,8 *	2	
A	---	1,7	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
	FR 2 717 774 A (ERCA) 29 September 1995 (1995-09-29) * page 10 - page 11 * * figure 5 *		B65D B65B B29C
A	---	7	
	US 3 977 153 A (SCHRENK WALTER J) 31 August 1976 (1976-08-31) * column 6, line 46 - line 66 * * figure 4 * -----		
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 5 June 2003	Examiner Rodriguez Gombau, F
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 Patent
Office

Application Number
EP 01 50 0075

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet 8

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1,2,7-10,12



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 01 50 0075

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1, 2, 7-10, 12

Bottle of thermoplastic material with means for unscrewing the top, and method of manufacturing such a bottle.

2. Claims: 1, 3, 4, 7, 11

Bottle of thermoplastic material with means for pulling the top.

3. Claims: 1, 5, 14

Grouping of bottles linked by easily-broken straps, and method of creating such a grouping.

4. Claims: 1, 6, 13

Grouping of bottles linked by a body comprising a handle, and method of creating such a grouping.

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

EP 01 50 0075

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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.

05-06-2003

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