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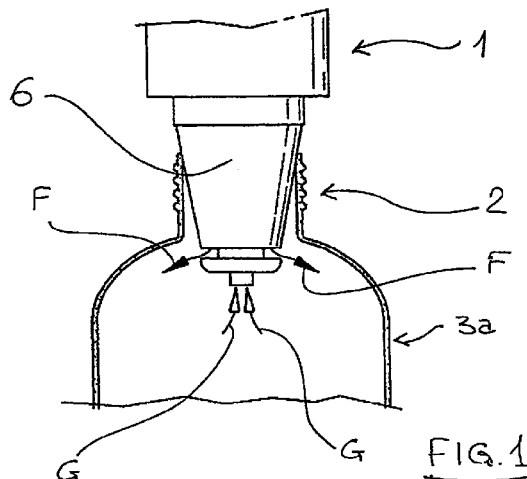
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(54) **Method and device for filling plastic bottles**

(57) Method and device for filling plastic bottles whereby a dispensing/suction nozzle (1) is inserted into the mouth (2) at the top of a bottle. The nozzle (1) dispenses a liquid to fill the bottle and at the same time sucks out the air contained inside the said bottle. As the bottle is filled, the nozzle (1) has a frustoconical surface (6), which is made of steel, that fits tightly against an edge of the mouth (2), forming an air-tight seal around the said mouth by virtue of which seal the pressure inside the bottle can be less than the pressure in the external environment.



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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention shall be considered, for the purposes of subsequent proceedings, as the European search report

EP 98 81 0942

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.6)
A	EP 0 719 728 A (HOECHST AG) 3 July 1996 * column 2, line 6 - line 14; claim 1; figure 1 *	1,4	B67C3/16
A	FR 2 552 749 A (PONT A MOUSSON) 5 April 1985		
A	DE 894 211 C (STRUNCK, HEINRICH ET AL.) 8 January 1953		
A	DE 10 39 866 B (GANTER, ARTUR) 25 September 1958		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B67C
INCOMPLETE SEARCH			
The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims. Claims searched completely : 1-6 Claims searched incompletely : Claims not searched : 7 Reason for the limitation of the search: Rule 29 (6) EPC			
Place of search		Date of completion of the search	Examiner
THE HAGUE		5 November 1999	Müller, C
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0719728	A	03-07-1996	JP 8231000 A	10-09-1996
FR 2552749	A	05-04-1985	NONE	
DE 894211	C		NONE	
DE 1039866	B		NONE	

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