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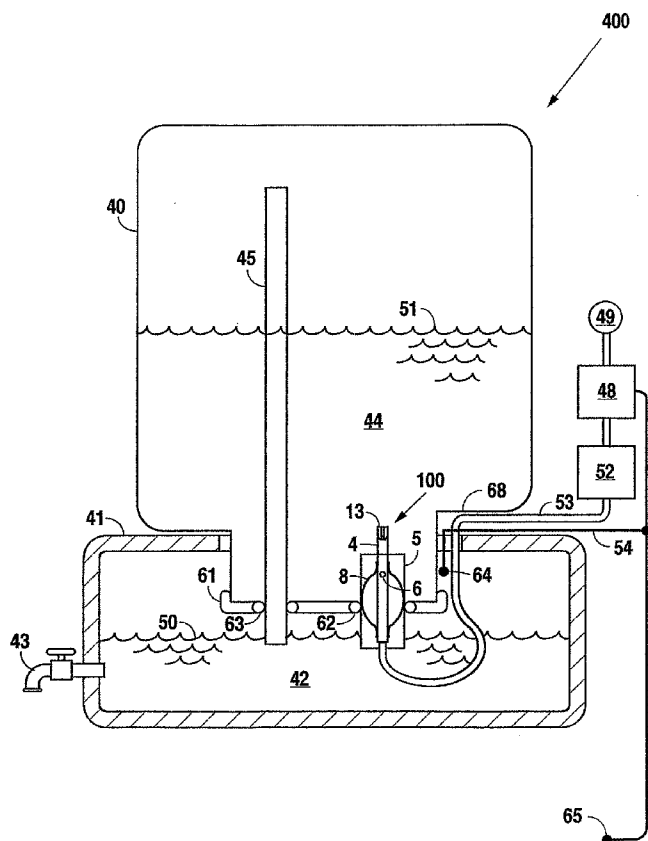
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(54) Title: APPARATUS AND METHOD FOR CONTROLLING THE FILLING AND EMPTYING OF A FLUID CONTAINER



(57) Abstract: An apparatus and method for emptying and filling a fluid container. A valve is constructed in part of two concentric tubes. Flow of a fluid through the outer tube of two concentric tubes is regulated by the flow of the same or another fluid through the inner tube. The two flows can be in the same or opposite directions. A cap containing the valve and a vent tube can be installed on a modified bottle used to supply water dispensers, thus enabling a user to continuously replenish the bottle from a remote supply. Alternatively, a cap containing the valve, a vent tube, and two fluid level sensors can be installed on a conventional bottle. A user is thus relieved of the burden of repetitive bottle changing, and is able to treat the water to his own specifications.

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INTERNATIONAL SEARCH REPORT

International application No.  
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<p>A. CLASSIFICATION OF SUBJECT MATTER                  IPC(8) - B65B 1/04 (2007.01)                  USPC - 141/21                  According to International Patent Classification (IPC) or to both national classification and IPC</p>																				
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols)                  IPC(8) - B65B 1/04, 3/00, 3/04, 31/00, 1/30, 3/28, 57/06, 57/14; B67D 5/08, 5/14, 5/06; F16K 31/00 (2007.01)                  USPC - 251/61.1, 61.2; 141/21, 198, 383, 391, 351, 364, 290; 222/65, 185.1</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)                  MicroPatent, IP.com, DialogPro</p>																				
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 3,693,841 A (HANSEN) 26 September 1972 (26.09.1972) entire document</td> <td>1-5</td> </tr> <tr> <td>A</td> <td>US 6,675,845 B2 (VOLPENHEIM et al) 13 January 2004 (13.01.2004) entire document</td> <td>6-17</td> </tr> <tr> <td>A</td> <td>US 5,111,966 A (FRIDMAN) 12 May 1992 (12.05.1992) entire document</td> <td>6-17</td> </tr> <tr> <td>A</td> <td>US 5,836,353 A (VAN STEENWYK) 17 November 1998 (17.11.1998) entire document</td> <td>6-17</td> </tr> <tr> <td>A</td> <td>GB 1,380,738 A (L'OREAL) 15 January 1975 (15.01.1975) entire document</td> <td>6-17</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 3,693,841 A (HANSEN) 26 September 1972 (26.09.1972) entire document	1-5	A	US 6,675,845 B2 (VOLPENHEIM et al) 13 January 2004 (13.01.2004) entire document	6-17	A	US 5,111,966 A (FRIDMAN) 12 May 1992 (12.05.1992) entire document	6-17	A	US 5,836,353 A (VAN STEENWYK) 17 November 1998 (17.11.1998) entire document	6-17	A	GB 1,380,738 A (L'OREAL) 15 January 1975 (15.01.1975) entire document	6-17
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<p>Name and mailing address of the ISA/US                  Mail Stop PCT, Attn: ISA/US, Commissioner for Patents                  P.O. Box 1450, Alexandria, Virginia 22313-1450                  Facsimile No. 571-273-3201</p>		<p>Authorized officer:                  Blaine R. Copenheaver                  PCT Helpdesk: 571-272-4300                  PCT OSP: 571-272-7774</p>																		