

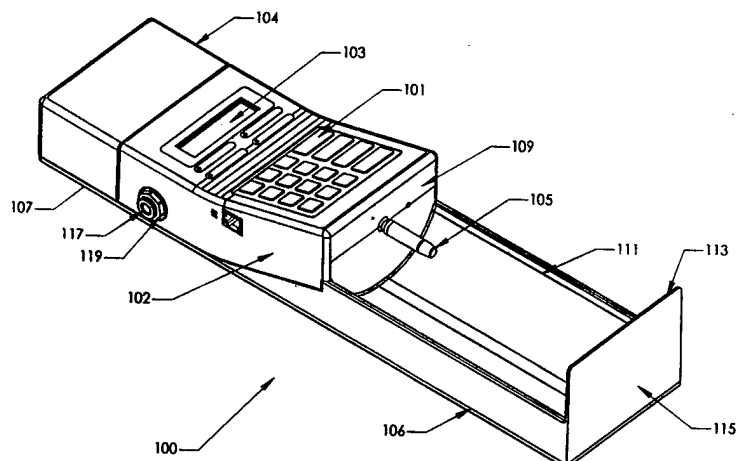


## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification</b> <sup>6</sup> : <b>G01F 15/06, G07F 15/12</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 98/40307</b>  <b>(43) International Publication Date:</b> 17 September 1998 (17.09.98)
<b>(21) International Application Number:</b> PCT/US98/04848 <b>(22) International Filing Date:</b> 9 March 1998 (09.03.98) <b>(30) Priority Data:</b> 08/814,621 10 March 1997 (10.03.97) US <b>(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application</b> US Filed on Not furnished (CIP) Not furnished <b>(71) Applicant (for all designated States except US):</b> INNOVATIVE MEDICAL SERVICES [US/US]; 1725 Gillespie Way, El Cajon, CA 92020 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> KRALL, Michael, L. [-/US]; 2925 Camino De Las Piedreas, El Cajon, CA 92019 (US). CAIRD, David, P. [-/US]; 8067 Rancho Fanita, Santee, CA 92071 (US). <b>(74) Agents:</b> BERG, Richard, P. et al.; Ladas & Parry, Suite 2100, 5670 Wilshire Boulevard, Los Angeles, CA 90036-5679 (US).	<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>  <b>(88) Date of publication of the international search report:</b> 29 October 1998 (29.10.98)	

**(54) Title:** METHOD AND APPARATUS FOR DISPENSING FLUIDS**(57) Abstract**

A method and apparatus (100) for dispensing fluids in response to a user request for a specified amount of the fluid. A microprocessor opens and closes a fluid port (105) for predetermined amounts of time to control the amount of fluid dispensed. The microprocessor monitors the elapsed time and the amount of fluid that has been dispensed since the last time the filter was serviced. In one preferred embodiment, the amount of fluid that is dispensed is measured by continuously monitoring the volume of fluid flowing through the apparatus. A pressure measurement device allows the microprocessor to monitor the fluid pressure. The microprocessor prevents fluid from being dispensed if the pressure is not within a predetermined range of tolerances. The fluid port (105) is opened and closed by activating and deactivating a solenoid.



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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/04848

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G01F 15/06; G07F 15/12  
US CL :364/528.18; 702/100

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : Please See Extra Sheet.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MAYA, APS, STN; search terms: look-up table, LUT, dosage strength, bar code scanner, dispens?, flow#, pressur?, fluid#, dos?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,480,063 A (KEYES ET AL.) 02 January 1996, the abstract.	1-26
Y	US 5,680,960 A (KEYES ET AL.) 28 October 1997, the summary.	1-26
Y	US 5,033,644 A (TENTLER) 23 July 1991, the abstract.	3-4, 11-18, 24
Y	US 5,170,361 A (REED) 08 December 1992, the abstract.	4, 10
Y	US 5,481,260 A (BUCKLER ET AL.) 02 January 1996, the abstract.	5-6
Y	US 4,145,091 A (BUELER ET AL.) 20 March 1979, the summary.	7-8

Further documents are listed in the continuation of Box C.  See patent family annex.

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Date of the actual completion of the international search

19 JUNE 1998

Date of mailing of the international search report

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/04848

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,687,092 A (BRETMERSKY ET AL.) 11 November 1997, Claim 1.	13
Y	US 5,272,920 A (STEPHENSON ET AL.) 28 December 1993, the abstract.	13
Y	US 5,319,964 A (STEPHENSON ET AL.) 14 June 1994, Claim 1.	13
Y	US 3,669,312 A (KUCKENS ET AL.) 13 June 1972, the abstract and claim 1.	14-16
Y	US 4,964,533 A (ALLINGTON ET AL.) 23 October 1990, the summary.	15-16
Y	US 4,676,914 A (MILLS ET AL.) 30 June 1987, the abstract and claim 1.	17
Y	US 4,907,620 A (BECKER) 13 March 1990, the abstract.	25
Y	US 5,636,653 A (TITUS) 10 June 1997, the abstract.	20
Y	US 5,603,430 A (LOEHRKE ET AL.) 18 February 1997, the summary.	22-23
Y	US 5,314,825 A (WEYRAUCH ET AL.) 24 May 1994, the summary.	22-23

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/04848

**B. FIELDS SEARCHED**

Minimum documentation searched

Classification System: U.S.

364/528.18, 528.16, 528.17; 702/100; 73/149, 290R, 301, 37; 137/455, 485, 487.5, 87.01, 98, 101.25, 101.27, 488, 561R, 563, 605, 606, 607, 625.65, 85, 602, 896, 897, 898; 222/1, 318, 64, 81, 85, 52, 61; 210/252, 258, 134, 348, 416.1; 366/167.1, 177.1, 151.1, 153.1