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

(19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 29 January 2004 (29.01.2004)

PCT

(10) International Publication Number WO 2004/009152 A3

A61M 37/00 (51) International Patent Classification⁷:

(21) International Application Number:

PCT/US2003/022703

(22) International Filing Date: 15 July 2003 (15.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 10/200,109 19 July 2002 (19.07.2002) US

- (71) Applicant: CONCEPT FOUNDRY, LLC. [US/US]; 31682 Via Patito, Coto de Caza, CA 92769 (US).
- (72) Inventor: MALLETT, Scott; 31682 Via Patito, Coto de Caza, CA 92769 (US).
- (74) Agent: STOUT, Donald, E.; Stout, Uxa, Buyan & Mullins, 4 Venture, Suite 300, Irvine, CA 92618 (US).

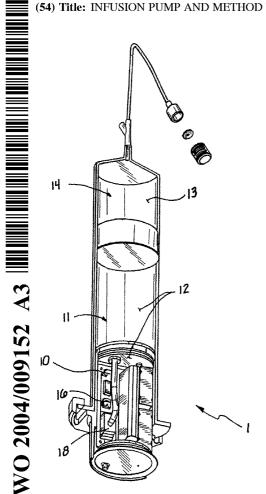
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: INFUSION PUMP AND METHOD FOR USE



(57) Abstract: A fluid dispensing system provides a non-contact method of monitoring the change in the fluid volume over time. This approach avoids the use of probes or sensors that come into direct contact with the fluid to be dispensed. The system (1) comprises an apparatus comprising three chambers (10, 11, 14). The first chamber (10) has a fixed volume and contains a pressurized gas. A solenoid valve is used to control the flow of gas from the first chamber (10) into the second (11). The second chamber (11) is sealed so that the combined mass of air in the first (10) and second (11) chambers remains fixed. The third chamber (14) is adjacent to the second (11) and contains medication in the form of incompressible fluid that is to be administered to a human or animal subject via a suitable delivery port.

WO 2004/009152 A3



 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

4 November 2004

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/22703

. ~~	CONTROL OF			
A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61M 37/00 US CL : 604/141				
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.: 604/141, 150, 151, 156, 218, 235, 892.1, 131, 140				
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)				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where a		Relevant to claim No.	
A	US 4,969,884 A (YUM) 13 November 1990 (13.11	.1990), See entire patent.	1-30	
Α	US 3,894,538 A (RICHTER) 15 July 1975 (15.07.	1975), See entire patent.	1-30	
	Listed in the action of Day C	Secretary Consideration		
Further documents are listed in the continuation of Box C. * Special categories of cited documents:		"T" See patent family annex. "Interdocument published after the international filing date or priority		
"A" document defining the general state of the art which is not considered to be of particular relevance		date and not in conflict with the application but cited to understand the principle or theory underlying the invention		
 "E" carlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means 		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone		
		"Y" document of particular relevance; the cleaning considered to involve an inventive step w		
		being obvious to a person skilled in the a	nrt	
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report 1 0 SFP 2004		
23 August 2004 (23.08.2004) Name and mailing address of the ISA/US		Authorized officer		
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450		Authorized officer Starm M. / There for Manuel Mendez		
Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Telephone No. 703-308-2221		

Form PCT/ISA/210 (second sheet) (July 1998)