

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
13 January 2005 (13.01.2005)

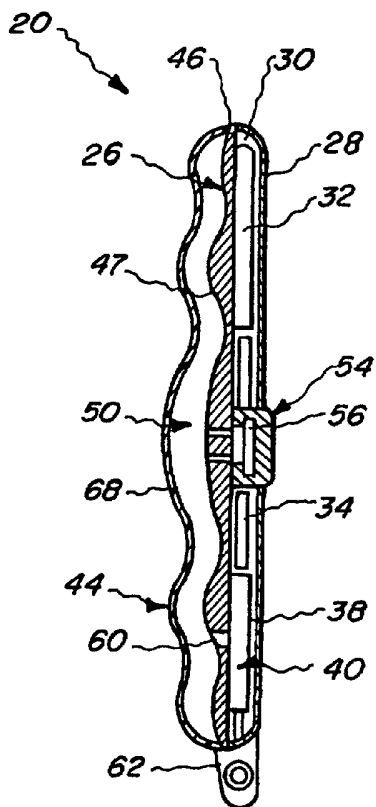
PCT

(10) International Publication Number  
**WO 2005/002642 A3**

- (51) International Patent Classification<sup>7</sup>: **A61K 9/22** (US). **LORD, Peter, C.** [US/US]; 25505 Old Course Way, Valencia, CA 91355 (US).
- (21) International Application Number: PCT/US2004/020117
- (22) International Filing Date: 23 June 2004 (23.06.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/483,015 25 June 2003 (25.06.2003) US
- (71) Applicant (for all designated States except US): **MEDICAL RESEARCH PRODUCTS-A, INC.** [US/US]; 12744 San Fernando Road, Building 3, Sylmar, CA 91324 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **GIBSON, Scott, R.** [US/US]; 17312 Tennyson Place, Granada Hills, CA 91344
- (74) Agent: **FREILICH, Arthur;** Freilich, Hornbaker & Rosen, Suite 260, 9045 Corbin Avenue, Northridge, CA 91324 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, 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, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: MEDICATION INFUSION DEVICE USING NEGATIVELY BIASED AMBIENT PRESSURE MEDICATION CHAMBER



(57) Abstract: A method and apparatus of infusing medication into a patient's body using a medication chamber referenced to ambient pressure. The apparatus includes a medication chamber (50) enclosed by a peripheral wall (44) which includes a movable portion configured to transfer exterior ambient pressure into the chamber. Means are provided for exerting a negative biasing force acting on the movable portion in a direction opposed to the ambient pressure force. Thus, the resultant pressure in the chamber will be negative with respect to ambient pressure, reducing the risk that the chamber can be overpressurized and produce an unintended medication discharge.

WO 2005/002642 A3



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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

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

24 February 2005

**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

*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.*

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US04/20117

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A61K 9/22  
US CL : 604/891.1

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. : 604/890.1,892.1,23,500,151,153,288.01-288.04

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 appropriate, of the relevant passages	Relevant to claim No.
A	US 6,520,936 B1 (MANN) 18 February 2003 (18.02.2003), see entire document.	1-15
A	US 4,838,887 A (IDRISS) 13 June 1989 (13.06.1989), see entire document.	1-15
A	US 4,718,893 A (DORMAN et al) 12 January 1988 (12.01.1988), see entire document.	1-15
A	US 4,714,462 A (DIDOMENICO) 22 December 1987 (22.12.1987), see entire document.	1-15

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier 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

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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 claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

12 December 2004 (12.12.2004)

Date of mailing of the international search report

**06 JAN 2005**

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

Authorized officer

Catherine S. Williams

Telephone No. 571-272-4970

Facsimile No. (703) 305-3230