

(19) World Intellectual Property  
Organization  
International Bureau



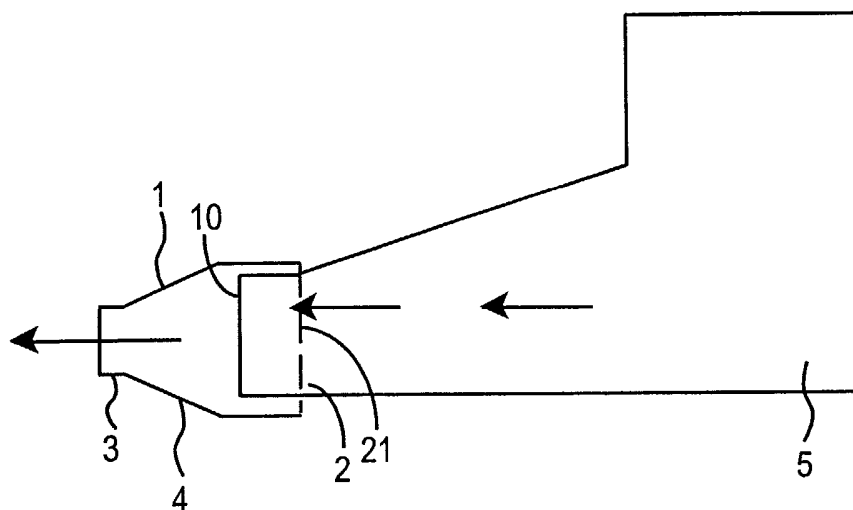
(43) International Publication Date  
20 March 2003 (20.03.2003)

PCT

(10) International Publication Number  
**WO 2003/022332 A3**

- (51) International Patent Classification<sup>7</sup>: **A61M 11/00**, 13/00, 15/00
- (21) International Application Number:  
PCT/US2002/030308
- (22) International Filing Date:  
6 September 2002 (06.09.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/317,706 6 September 2001 (06.09.2001) US
- (71) Applicant (for all designated States except US): **MICRO-DOSE TECHNOLOGIES, INC.** [US/US]; Suite 3, 4262 US Route 1, Monmouth Junction, NJ 08852 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ABRAMS, Andrew, L.** [US/US]; 26 Imperial Avenue, Westport, CT 06880 (US). **GUMASTE, Anand, V.** [US/US]; 7 Ardsley Court, Princeton Junction, NJ 08550 (US).
- (74) Agents: **SOLOWAY, Norman, P.** et al.; Hayes Soloway P.C., 130 W. Cushing Street, Tucson, AZ 85701 (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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, 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, IE, IT, LU, MC, NL, PT, SE, 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
- (88) Date of publication of the international search report:  
3 June 2004
- 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.*

(54) Title: ADAPTORS FOR INHALERS TO IMPROVE PERFORMANCE



(57) Abstract: A child-sized adaptor (1) for a DPI or MDI is provided. Also provided is a patient feedback mechanism (18) for signaling and/or teaching proper inhaler use.

WO 2003/022332 A3

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US02/30308

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :A61M 11/00, 13/00, 15/00

US CL :Please See Extra Sheet.

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. : 128/200.12, 200.14, 200.17, 200.18, 200.22, 200.23, 203.12, 203.15, 203.18, 203.19, 203.21, 204.25; 604/58

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.
X	US 6,240,917 A (Andrade) 05 June 2001, figures 1 and 4, columns 3 and 4.	1, 2, 5 - 8, 10 - 14, 16, 17
Y	US 5,794,612 A (WACHTER et.al) 18 August 1998, figures 1-3B, column 3, lines 5-20 and column 4, lines 23-67.	3, 4, 9, 15

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

"A"	document defining the general state of the art which is not considered to be of particular relevance	"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
"E"	earlier document published on or after the international filing date	"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
"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)	"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
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 04 DECEMBER 2002	Date of mailing of the international search report <b>26 MAR 2003</b>
---	--

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20251	Authorized officer  TEENA MITCHELL
Facsimile No. (703) 305-8230	Telephone No. (703) 308-0858

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US02/30308

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

128/200.12, 200.14, 200.17, 200.18, 200.22, 200.23, 203.12, 203.15, 203.18, 203.19, 203.21, 204.25; 604/58