

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 September 2001 (20.09.2001)

PCT

(10) International Publication Number
WO 01/69639 A3

(51) International Patent Classification⁷: A61B 5/08

(81) Designated States (*national*): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, 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.

(21) International Application Number: PCT/US01/07617

(22) International Filing Date: 8 March 2001 (08.03.2001)

(25) Filing Language: English

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:
60/189,002 13 March 2000 (13.03.2000) US

Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(71) Applicant (*for all designated States except US*):
KINDERLIFE INSTRUMENTS, INC. [US/US];
1320 Villa Street, Mountain View, CA 94041 (US).

(72) Inventor; and

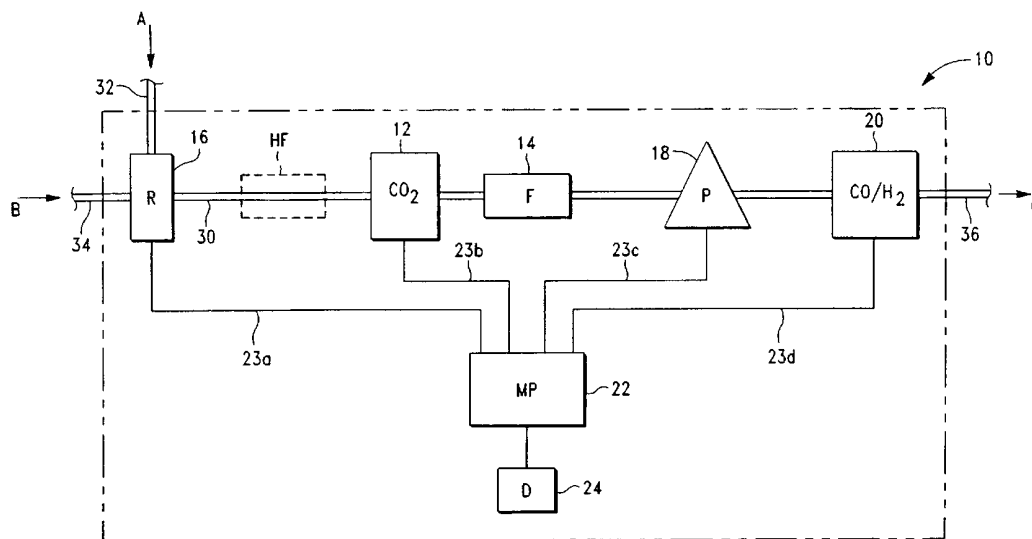
(75) Inventor/Applicant (*for US only*): **STONE, Robert, T.**
[—/US]; 869 Cumberland Drive, Sunnyvale, CA 94087 (US).

(88) Date of publication of the international search report:
24 January 2002

(74) Agent: **FRANCIS, Ralph, C.**; Francis Law Group, 1808 Santa Clara Avenue, Alameda, CA 94501 (US).

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: METHOD AND APPARATUS FOR $\$M(F)\$M(G)$ IN-VIVO $\$M(F)\$M(G)$ MEASUREMENT OF CARBON MONOXIDE PRODUCTION RATE



(57) Abstract: An apparatus (10) for in vivo measurement of carbon monoxide production rate comprising: a first gas detector (12) for detecting the concentration of a first selected gas in at least first and second gas samples, the first gas detector being adapted to provide output signals corresponding to the first selected gas concentration in the first and second gas samples to a microprocessor (22); and a second gas detector (20) adapted to substantially simultaneously detect the concentration of at least second and third gases in the first and second gas samples.



WO 01/69639 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US01/07617

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 5/08

US CL : 600/532, 529; 128/200.26

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. : 600/532, 529; 128/200.26

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)
EAST, DERWENT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 5,800,360 A (KISNER et al.) 01 SEPTEMBER 1998, see entire reference.	
A	US 6,010,459 A (SILKOFF et al.) 4 JANUARY 2000. see entire reference.	
A,E	US 6,199,550 B1 (WIESMANN et al.) 13 MARCH 2001.	
A	US 5,383,469 A (VREMAN et al.) 24 JANUARY 1995.	
A	US 5,404,885 A (SHEEHAN et al.) 11 APRIL 1995	
A	US 5,834,626 A (DE CASTRO et al.) 10 NOVEMBER 1998	

Further documents are listed in the continuation of Box C

See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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)	"Z"	document member of the same patent family
"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		

Date of the actual completion of the international search

19 MAY 2001

Date of mailing of the international search report

13 NOV 2001

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No (703) 305-8230

Authorized officer

BRIAN SINES DEROPAH THOMAS

Telephone No (703) 305-8661