

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 March 2006 (09.03.2006)

PCT

(10) International Publication Number
WO 2006/026735 A3

(51) International Patent Classification:

C12Q 1/68 (2006.01) *B32B 27/04* (2006.01)
B32B 5/02 (2006.01) *B32B 27/12* (2006.01)

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(21) International Application Number:

PCT/US2005/031244

(22) International Filing Date: 31 August 2005 (31.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/606,043 31 August 2004 (31.08.2004) US

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(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

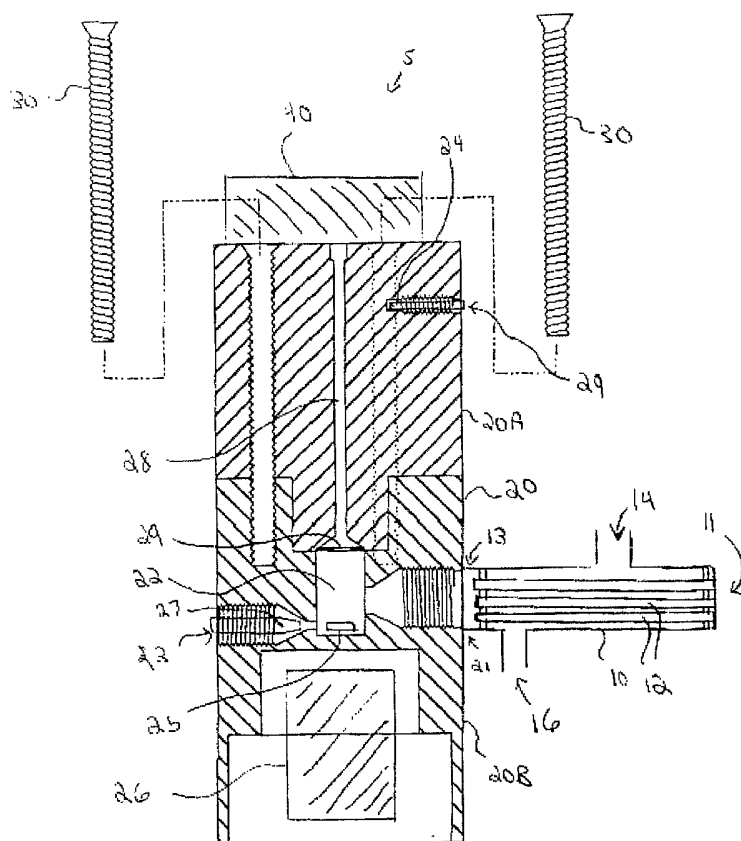
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, 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).

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[Continued on next page]

(54) Title: APPARATUSES AND METHODS FOR ANALYZING GAS EXCHANGE PROPERTIES OF BIOLOGICAL FLUIDS



(57) Abstract: The present invention relates to systems and methods for measuring oxygen saturation and for examining gas exchange of blood and other hemoglobin based oxygen carriers. The present invention includes a capillary fluid/gas exchange system and a sample mixing chamber. An oxygen electrode is used to measure hemoglobin concentration in the sample. In one embodiment, a pressure transducer and a Millipore filter are used to measure sickle cell concentration in the blood sample.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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*

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

1 June 2006

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/US05/31244

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; B32B 5/02, 27/04, 27/12

US CL : 422/50, 83, 98, 101; 436/43, 62, 68, 178

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. : 422/50, 83, 98, 101; 436/43, 62, 68, 178

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, STN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3,518,982 (TIMMINS et al.) 7 JULY 1970.	1-43
A	US 6,269,679 B1 (MCCARTHY et al.) 7 AUGUST 2001.	1-43

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Further documents are listed in the continuation of Box C.

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Date of the actual completion of the international search

10 February 2006 (10.02.2006)

Date of mailing of the international search report

22 MAR 2006

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

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