#### (19) World Intellectual Property Organization International Bureau



(43) International Publication Date 20 March 2008 (20.03.2008)

- (51) International Patent Classification: *A61M 1/36* (2006 01) *A61M 1/34* (2006 01) *A61M 1/16* (2006 01)
- (21) International Application Number: PCT/US2007/078089
- (22) International Filing Date:
  - 11 September 2007 (11 09 2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 11/530,842 11 September 2006 (11 09 2006) US
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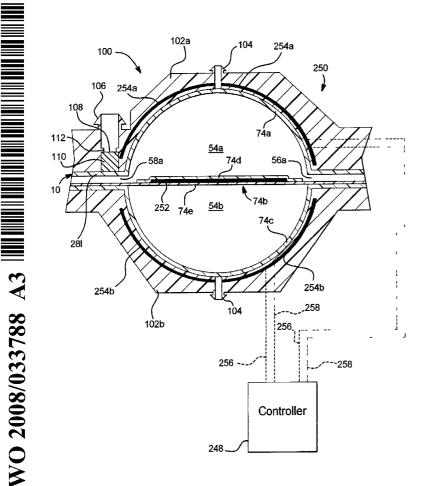
## (10) International Publication Number WO 2008/033788 A3

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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, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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: MEDICAL FLUID SYSTEM WITH FLEXIBLE SHEETING DISPOSABLE UNIT



(57) Abstract: A kidney failure therapy system includes (a) a dialysate supply, (b) at least one valve actuator, (c) at least one pump actuator, and (d) a disposable unit including first and second flexible sheets sealed together for form (i) at least one flow path configured to be placed in fluid communication with the dialysate supply, and operable with the at least one valve actuator, and (ii) a least one pumping portion configured to operate with the at least one pump actuator 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, MT, 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).

#### **Declarations under Rule 4.17:**

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

#### **Published:**

— with international search report

(88) Date of publication of the international search report: 24 July 2008

#### INTERNATIONAL SEARCH REPORT

A. CLASSIFICATIONOF SUBJECT MATTER INV. A61M1/34 A61M1 A61M1/36 ADD. A61M1/16 According Io International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) A61M Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the internatranal search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Х WO 2005/044339 A (BAXTER HEALTHCARE CORP 1-37 [US]; BAXTER HEALTHCARE SA [CH]; KELLY THOMAS D) 19 May 2005 (2005-05-19) figures 2,3,44 page 16, lines 25-31 page 75, lines 11-32 page 81, lines 9-31 X US 2002/147423 Al (BURBANK JEFFREY H [US] 1-17, ET AL BURBANK JEFFREY H [US] ET AL) 38-50 10 October 2002 (2002-10-10) claims 86,89; figures 7,8 paragraphs [0090], [0092], [0100] -/-X X Further documents are listed in the continuation of Ek)X C. See patent (amily 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 'A' document defining the general state of the art which is not considered to be of particular relevance invention \*E" earlier document but published on or after the international filing date <sup>1</sup>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 <sup>1</sup>L' document which may throw doubts on priority clarm(s) or which is cited to establish the publication date of another <sup>1</sup>Y<sup>1</sup> 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 docu-ments, such combination being obvious to a person skilled citation or other special reason (as specified) <sup>1</sup>O" document referring to an oral disclosure, use, exhibition or other means in the art <sup>1</sup>P' document published prior to the international filing date but later than the priority date claimed <sup>1</sup>S<sup>\*</sup> document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 4 March 2008 04/04/2008 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Kaden, Malte Fax: (+31-70) 340-3016

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## **INTERNATIONAL SEARCH REPOFTT**

International application No

PCT/US2007/078089

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT									
Category *	Citation of document with Indication, where appropriate ot the relevant passages	Relevant to claim No							
X	US 3 946 731 A (LICHTENSTEIN ERIC S) 30 March 1976 (1976-03-30) figures 4a,4b,8 column 4, lines 41-46 column 6, lines 20-25 column 9, lines 30-41 column 12, lines 22-37	1-37, 46-50							
X	GB 1 492 387 A (LICHTENSTEIN E) 16 November 1977 (1977-11-16) figures 1-3,7,8 claim 1 page 2, line 102 - page 3, line 33	46-50							
X	US 4 161 264 A (JOHNSON BRYAN E [US] ET AL) 17 July 1979 (1979-07-17) figures 1,2 column 2, line 61 - column 3, line 6 column 3, line 66 - column 4, line 46	1-17							
A	US 4 676 905 A (NAGAO SHOZO [JP] ET AL) 30 June 1987 (1987-06-30) figures 4-7	51							

Form PCT/ISA/210 (continuation of second sh00t) (April 2005)

INTERNATIONAL SEARCH REPORT Information on patent family members							International application No PCT/US2007/078089		
Patent document cited in search report			Publication date	Patent family member(s)			Publication date		
WO	2005044339	A	19-05-2005	EP JP US US us	1684825 2007510473 2008015493 2008021377 2005131332	8 <b>T</b> 8 Al 7 Al	02-08-2006 26-04-2007 17-01-2008 24-01-2008 16-06-2005		
 vs	2002147423	 Al	10-10-2002				20-04-2006		
us	3946731	 А	30-03-1976	NONE					
GB	1492387		16-11-1977	ZA	819642 7405558	3 <b>A</b>	29-10-1975		
US			17-07-1979	NONE			- <u> </u>		
us	4676905	A	30-06-1987	-	1113572 52072379 56000082	A	16-09-1982 16-06-1977 06-01-1981		

# INTERNATIONAL SEARCH DEPORT

Form PCT/I3V210 (patent family annex) (April 200S)