



- (51) **International Patent Classification:**
A61M 39/26 (2006.01) *A61M 39/22* (2006.01)
A61M 39/04 (2006.01)
- (21) **International Application Number:**
PCT/US2014/071203
- (22) **International Filing Date:**
18 December 2014 (18.12.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/921,184 27 December 2013 (27.12.2013) US
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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,

[Continued on next page]

- (54) **Title:** MULTI-FUNCTIONAL MEDICAL SAMPLING PORT AND METHOD OF USING SAME

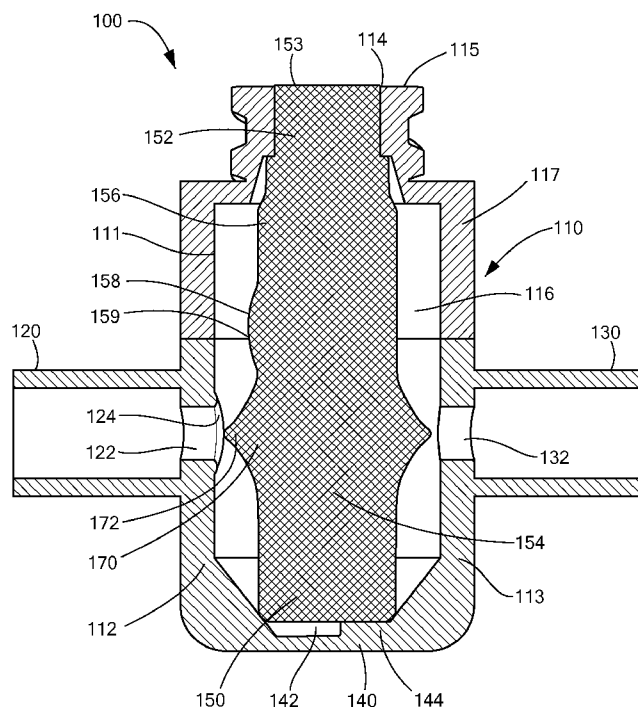


FIG. 2A

(57) **Abstract:** A medical port includes a hub having a body forming a hub chamber for containing a fluid, and a proximal opening to the hub chamber for receiving a medical implement. The port also has a valve member, a first radial fluid channel, and a second radial fluid channel. The valve member is located within the hub chamber, has a radial portion, and closes the proximal opening when the medical port is in a closed mode. The first and second radial fluid channels are in fluid communication with the hub chamber when the medical port is in the closed mode. The radial portion of the valve member restricts fluid communication between the first radial fluid channel and the hub chamber when the medical port is in an open mode.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, KM, 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 (Rule 48.2(h))*

Published:

— *with international search report (Art. 21(3))*

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

3 September 2015

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/071203

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M39/26 A61M39/04 A61M39/22
ADD.

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)
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 international search (name of data base and, where practicable, search terms used)

EP0-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.
X	WO 2006/025054 A2 (ELCAM MEDICAL AGRICULTURAL COO [IL]; ZIV DAVID [IL]; GIL TOMER [IL]) 9 March 2006 (2006-03-09) page 10, line 1 - page 13, line 10; figures 1-10	1,2, 12-14
X	WO 2013/146753 A1 (TERUMO CORP) 3 October 2013 (2013-10-03) paragraph [0022] - paragraph [0102] & EP 2 832 398 A1 (TERUMO CORP [JP]) 4 February 2015 (2015-02-04) paragraph [0022] - paragraph [0102]; figures 1-12	1,2, 12-14
A	WO 2009/029751 A1 (HOSPIRA INC [US]; ZIEGLER JOHN S [US]) 5 March 2009 (2009-03-05) paragraph [0057]; figure 4	3,12
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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 but 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

8 April 2015

Date of mailing of the international search report

21/07/2015

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/071203

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/193752 A1 (LYNN LAWRENCE A [US]) 19 December 2002 (2002-12-19) paragraph [0125] - paragraph [0137]; figures 1-17 -----	3,8
X	US 2006/089603 A1 (TRUITT TIM L [US] ET AL) 27 April 2006 (2006-04-27)	1,2
A	paragraph [0082] - paragraph [0088]; figures 1-13 -----	3,12
A	WO 2011/100187 A1 (HOLLISTER INC [US]; THOMPSON ROBIN RAY [US]; RDZOK JOHN E [US]) 18 August 2011 (2011-08-18) paragraph [0036] - paragraph [0044]; figures 7-12 -----	1-3,8-14
A	DE 10 2006 044722 A1 (MIJERS JAN WILLEM MARINUS [NL]) 24 April 2008 (2008-04-24) paragraph [0034] - paragraph [0047]; figures 1-13 -----	13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/071203

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 23-41
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-3, 8-14

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 23-41

The subject-matter of claims 23-41 is a method of transferring at least a minimum amount of fluid between the medical implement and the patient (see last two lines of claim 23). This is a method for treatment of the human or animal body by therapy under Rule 39.1(iv) PCT.

Therefore, the subject-matter of claims 23-41 will not be examined (Rule 66.1(e) PCT, Article 34(4)(a)(i) PCT and Rule 67.1(iv) PCT).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guidelines C-IV, 7.2), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3, 8-14

a medical port having a resilient, i.e. deformable valve member

2. claims: 4-7

a medical port having a valve member comprising a flow disrupter

3. claims: 15-21

a medical port having a valve member comprising an interacting surface

4. claim: 22

a medical port having a valve member comprising an anti-rotation feature

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/071203

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006025054 A2	09-03-2006	CA 2578989 A1	09-03-2006
		CA 2836337 A1	09-03-2006
		EP 1789709 A2	30-05-2007
		EP 2808586 A1	03-12-2014
		JP 5015778 B2	29-08-2012
		JP 5502825 B2	28-05-2014
		JP 2008511371 A	17-04-2008
		JP 2012052664 A	15-03-2012
		US 2007287953 A1	13-12-2007
		US 2011308651 A1	22-12-2011
		US 2014014207 A1	16-01-2014
		WO 2006025054 A2	09-03-2006

WO 2013146753 A1	03-10-2013	CN 104203332 A	10-12-2014
		EP 2832398 A1	04-02-2015
		US 2015013807 A1	15-01-2015
		WO 2013146753 A1	03-10-2013

WO 2009029751 A1	05-03-2009	US 2009062738 A1	05-03-2009
		WO 2009029751 A1	05-03-2009

US 2002193752 A1	19-12-2002	US 7033339 B1	25-04-2006
		US 2002193752 A1	19-12-2002
		US 2006129112 A1	15-06-2006
		US 2008048144 A1	28-02-2008
		US 2008051733 A1	28-02-2008
		US 2008108956 A1	08-05-2008
		US 2014358033 A1	04-12-2014

US 2006089603 A1	27-04-2006	AU 2005299928 A1	04-05-2006
		CA 2583747 A1	04-05-2006
		CN 101043910 A	26-09-2007
		EP 1812093 A2	01-08-2007
		JP 2008517653 A	29-05-2008
		US 2006089603 A1	27-04-2006
		US 2011257606 A1	20-10-2011
		US 2014257198 A1	11-09-2014
		WO 2006047181 A2	04-05-2006

WO 2011100187 A1	18-08-2011	AU 2011216042 A1	30-08-2012
		CA 2789612 A1	18-08-2011
		EP 2533843 A1	19-12-2012
		US 2013131626 A1	23-05-2013
		WO 2011100187 A1	18-08-2011

DE 102006044722 A1	24-04-2008	NONE	
