

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 April 2009 (23.04.2009)

(10) International Publication Number  
**WO 2009/052433 A3**

(51) International Patent Classification:  
A61M 5/00 (2006.01)

(74) Agent: ENGLISH, William, A.; 2040 Main Street, 9th Floor, Irvine, CA 92614 (US).

(21) International Application Number:  
PCT/US2008/080375

(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, 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, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:  
17 October 2008 (17.10.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/981,233 19 October 2007 (19.10.2007) US

(71) Applicant (for all designated States except US): INFUSION INNOVATIONS, INC. [US/US]; 5445 Candlelight Drive, La Jolla, CA 92037 (US).

(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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and  
(75) Inventor/Applicant (for US only): STROUP, David, K. [US/US]; 1944 Altozano Drive, El Cajon, CA 92020 (US).

[Continued on next page]

(54) Title: DEVICES AND ASSEMBLIES FOR CONTROLLING FLUID FLOW

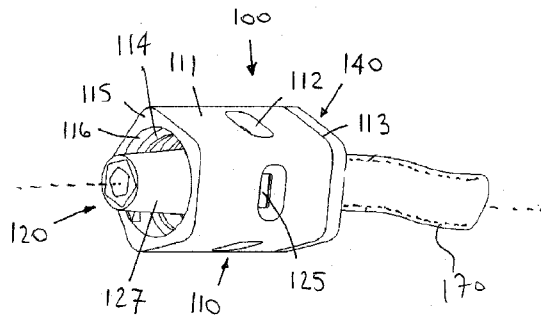


FIG. 1A

(57) Abstract: Connector assemblies are provided for controlling flow in a fluid line that include an outer shell, an inner housing, and a tubular member. The inner housing is disposed within the outer shell and includes a boss disposed adjacent a first end of the outer shell. The inner housing is movable axially within the outer shell between first and second positions when a device is connected to the first end. The tubular member is carried by the inner housing and includes a fluid passage extending between a second end of the outer shell. The tubular member moves axially as the inner housing moves between the first and second positions, and cam features on the outer shell and the tubular member cause the tubular member to rotate as the inner housing moves between the first and second positions, thereby opening a fluid path between the fluid passage and the first end.

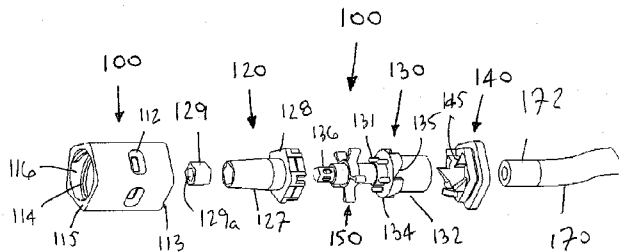
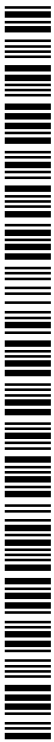


FIG. 1B



WO 2009/052433 A3



**Published:**

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

20 August 2009

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

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2008/080375****A. CLASSIFICATION OF SUBJECT MATTER***A61M 5/00(2006.01)i*

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)

IPC: A61M 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975  
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) &amp; keywords : needleless, luer, connector, flowline, self-sealing

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category*     | Citation of document, with indication, where appropriate, of the relevant passages                                       | Relevant to claim No.      |
|---------------|--|----------------------------|
| X<br>---<br>A | US 7118560 B2 (JEAN M. BONALDO) 10 October 2006<br>See Abstract; Figs. 1-18; Col. 3 Line 16-Col.5 Line 24                | 1, 7<br>-----<br>2-6, 8-60 |
| X<br>---<br>A | US 20030199835 A1 (KARL R. LEINSING and THEODORE J. MOSLER) 23 October 2003<br>See Abstract; Figs. 1-39A; [[0012]-[0023] | 1, 7<br>-----<br>2-6, 8-60 |
| A             | US 5954313 A (DANA WM. RYAN) 21 September 1999<br>See Abstract; Figs. 5-17; Col. 8 Line 55-Col.10 Line 36                | 1-60                       |
| A             | US 6364869 B1(JEAN M. BONALDO) 2 April 2002<br>See Abstract; Figs. 1-6; Col. 3 Line 7- Col.4 Line 67                     | 1-60                       |
| A             | US 6050978 A (DOUGLAS P. ORR and JOSEPH R. PARADIS) 18 April 2000<br>See Abstract; Col. 2 Line 20- Col. 3 Line 45        | 1-60                       |

 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 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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

19 JUNE 2009 (19.06.2009)

Date of mailing of the international search report

**19 JUNE 2009 (19.06.2009)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-  
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

OH Seung Jae

Telephone No. 82-42-481-8469



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2008/080375**

| Patent document cited in search report | Publication date | Patent family member(s)   | Publication date   |
|--|------------------|---|--|
| US 7118560 B2                          | 10. 10. 2006     | US 7329249 B2<br>US 2004-172006 A1<br>WO 2004-084969 A2<br>WO 2004-084969 A3  | 12. 02. 2008<br>02. 09. 2004<br>07. 10. 2004<br>02. 06. 2005   |
| US 2003-199835 A1                      | 23. 10. 2003     | US 7497848 B2   | 03. 03. 2009   |
| US 5954313 A                           | 21. 09. 1999     | AU 1337397 A<br>AU 1997-13373 B2<br>AU 714127 B2<br>AU 7269898 A<br>CA 2240858 A1<br>IL 125111 D0<br>JP 2000-503096<br>US 6158458 A<br>US 5788215 A<br>WO 97-24548 A1<br>WO 98-49476 A1 | 28. 07. 1997<br>28. 07. 1997<br>16. 12. 1999<br>24. 11. 1998<br>10. 07. 1997<br>26. 01. 1999<br>14. 03. 2000<br>12. 12. 2000<br>04. 08. 1998<br>10. 07. 1997<br>05. 11. 1998 |
| US 6364869 B1                          | 02. 04. 2002     | AU 2001-66668 A1<br>AU 6666801 A<br>JP 2003-534884 T<br>WO 01-93936 A1  | 17. 12. 2001<br>17. 12. 2001<br>25. 11. 2003<br>13. 12. 2001   |
| US 6050978 A                           | 18. 04. 2000     | AU 6977398 A<br>WO 98-50106 A1  | 27. 11. 1998<br>12. 11. 1998   |