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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, 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, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.
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[Continued on next page]

(54) Title: LOW-PROFILE SURGICAL UNIVERSAL ACCESS PORT

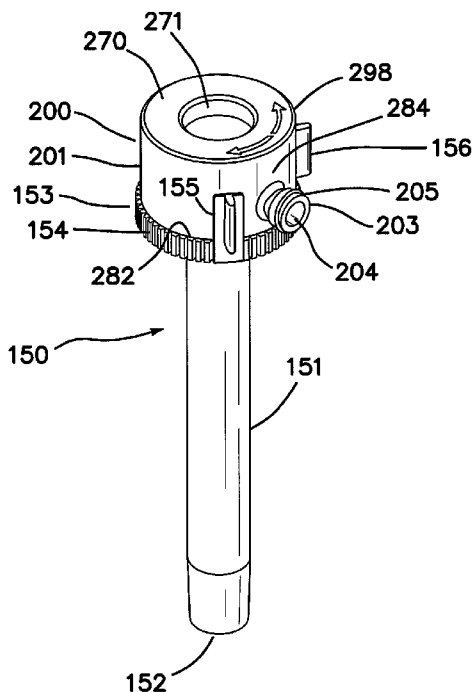


FIG. 10

(57) Abstract: A surgical access device (150) includes an elongate cannula (151) having a side wall (136) at the proximal end that is coaxial with and movable relative to a seal-housing (200). A seal assembly that includes at least one seal is disposed (300,320) within the seal-housing. An inflation port (203) is formed in on the seal housing and configured to align with an opening (206) in the side wall at the proximal end of the cannula. The seal housing is movable relative to the side wall between an open and closed configuration. In an open configuration, the inflation port is aligned with the opening in the side wall permitting fluid to flow across the cannula side wall. In a closed configuration, the inflation port is offset from the opening in the side wall preventing fluid flow across the cannula side wall. In one variation, a resilient retention member (350) is disposed inside the seal housing to bias the seal.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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))*

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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B17/34

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)

A61B

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)

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.
X	US 5 288 290 A (BRODY GEORGE [US]) 22 February 1994 (1994-02-22) column 2, line 38 - column 5, line 11; figures 1,2	1,3-5, 18,19
X	----- WO 98/33536 A1 (SORENSEN CRITICAL CARE INC [US]) 6 August 1998 (1998-08-06) page 7, lines 5-22 page 8, line 19 - page 9, line 3 figures 1,2	1,3,4, 18,19
X	----- DE 195 41 041 A1 (SCHALLER GUENTER [DE]) 7 May 1997 (1997-05-07)	1,2,18, 19
A	column 2, lines 16-35; figures 1,2 ----- -/--	5,6

☒ 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

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"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

29 October 2012

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 198 19 432 A1 (STORZ KARL GMBH & CO [DE] STORZ KARL GMBH & CO KG [DE]) 11 November 1999 (1999-11-11) the whole document -----	1,18
X	EP 2 229 897 A1 (TYCO HEALTHCARE [US]) 22 September 2010 (2010-09-22) paragraphs [0017], [0018], [0022], [0023], [0027], [0028]; figures 1-4 -----	12-16
X	WO 2007/093957 A2 (ROESCH THEODOR GERHARD [ZA]) 23 August 2007 (2007-08-23) page 8, lines 17-28 page 9, line 20 - page 10, line 17 figures 1-4 -----	12-14,16
X	EP 2 233 090 A1 (TYCO HEALTHCARE [US]) 29 September 2010 (2010-09-29) paragraphs [0015], [0021] - [0024]; figures 2,5A,5B -----	12,14,16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/036119

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.:
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:
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.:

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

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

1. claims: 1-11, 18-20

A surgical access device comprising an elongate tubular cannula, a seal housing and a seal assembly with a seal, wherein the cannula has an opening extending through the side wall of the cannula and the seal housing has an inflation port, so that the opening and the inflation port can be aligned to fluidly connect the inflation port and opening with the cannula lumen.
A method of using the above device.

2. claims: 12-17

A surgical access device comprising an elongate tubular cannula, a seal housing and a seal assembly with a seal, wherein a resilient member is provided between the seal assembly and the seal housing to bias translation of the seal.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/036119

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5288290	A	22-02-1994	NONE	
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