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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

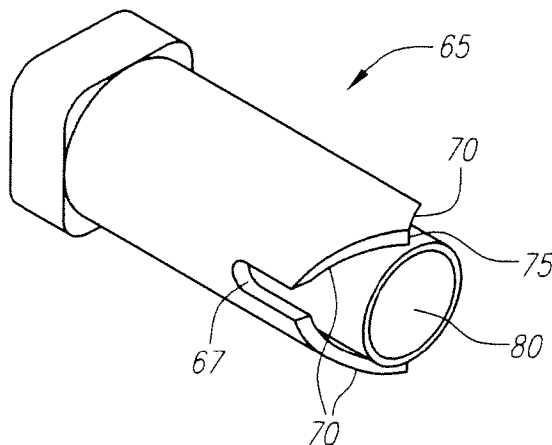
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(54) Title: SELF-ALIGNING IVUS CATHETER ROTATIONAL CORE CONNECTOR



(57) Abstract: The subject discussed here is self-aligning rotational connectors. In a non-limiting embodiment, a catheter system comprises a catheter connectable to a drive unit. The catheter includes a rotator, and at least one orientating feature extending proximally from the rotator, and configured to be inserted into an orienting slot of a shaft connector of the drive unit. When the orienting feature is inserted into the slot of the shaft connector, the slot transmits torque from the shaft connector to the orientating feature, and therefore the rotator of the catheter. Electrical contacts are provided on the rotator and the shaft connector, wherein the contacts of the rotator are properly aligned with and engage the contacts of the shaft connector. Further, the shaft connector has a slopping surface that slopes downward into the slot for automatically aligning the rotator rotationally with the shaft connector during insertion of the catheter

into the drive unit.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61B 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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/07500 A (BOSTON SCIENT LTD [BB]) 17 February 2000 (2000-02-17) page 4, line 16 - page 6, line 14 page 7, line 26 - page 13, line 8; figures 1-4,6	1-32
X	US 5 377 682 A (UENO SHINICHIRO [JP] ET AL) 3 January 1995 (1995-01-03) column 1, line 56 - column 2, line 14 column 7, line 58 - column 12, line 67 column 28, line 57 - column 29, line 19; figures 1-3,5,25A,25B	1,8,9, 13,14, 17,19, 21,23, 26,27,31

Further documents are listed in the continuation of Box C.

See patent family annex.

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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.
X	<p>US 6 485 482 B1 (BELEF W MARTIN [US]) 26 November 2002 (2002-11-26)</p> <p>column 3, lines 7-65 column 4, line 41 - column 5, line 48; figures 1-3</p>	<p>1, 8, 9, 13, 14, 17-19, 21, 23, 26, 27, 31, 32</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0007500	A	17-02-2000	CA 2339491 A1 17-02-2000
			DE 69927980 D1 01-12-2005
			DE 69927980 T2 27-07-2006
			EP 1100376 A1 23-05-2001
			ES 2251206 T3 16-04-2006
			JP 2002522105 T 23-07-2002
			US 6319227 B1 20-11-2001
			US 2002072704 A1 13-06-2002
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US 5377682	A	03-01-1995	NONE
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US 6485482	B1	26-11-2002	NONE
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