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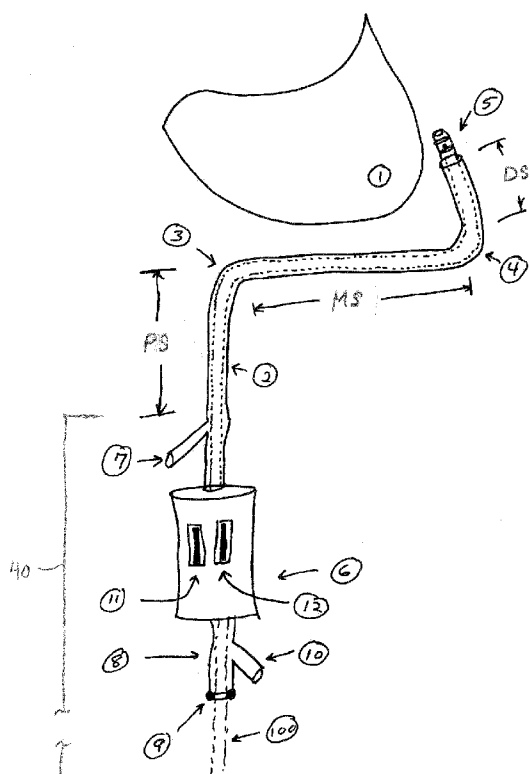
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[Continued on next page]

(54) Title: EPICARDIAL ABLATION CATHETER AND METHOD OF USE

Figure 1



(57) Abstract: An aspect of various embodiments of the present invention system and method provide, but not limited thereto, a novel means for epicardial ablation using a double-curve steerable sheath and a double-curve deflectable open irrigated-tip/suction catheter that can be guided around the apex of the heart and adjusted so as to position the distal tip optimally. The catheter can also both deliver fluid to and withdraw fluid from the pericardial space. Access to the epicardial surface of the heart is via a sub-xiphoid entry. The method and means presented include, but are not limited to, steering, energy delivery, bipolar mapping, placement and use of electrodes, irrigation, suction of irrigation fluid, and other details of the subject invention.



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).

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 600/471

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(8) - A61B 18/00; A61B 18/14 (2008.04)

USPC - 600/471

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

IPC(8) - A61B 18/00; A61B 18/14; A61N 1/00; A61B 5/042 (2008.04)

USPC - 600/471; 607/122 (Text Search)

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

PubWEST (PGPB, USPT, USOC, EPAB, JPAB); DialogPRO (Engineering) and Google Scholar.

Search Terms: catheter, curv\$, proximal, distal, epicardial, ablation, irrigation, aspiration, suction, ablat\$, irrigat\$, electrode, aspirat\$, access, needle, sheath, guidewire, cannula, guide-wire, diaphragm, seal, sealant, close, closed

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 2006/0271032 A1 (CHIN et al.) 30 November 2006 (30.11.2006) claim 10, 14, 51; fig 3A, 4A, 4B, 6H, 7C, 13A; para [0107], [0108], [0111], [0112], [0127], [0137], [0147], [0149], [0150], [0192], [0212].	1-5, 22-28, 46-53, 65-70, 92, 93 and 96-99 <hr/> 6-21, 29-45, 54-64, 71-91, 94 and 95
Y	US 5885217 A (GISSELBERG et al.) 23 March 1999 (23.03.1999) fig 10; col 1, ln 8-18; col 5, ln 10-40.	6-21 and 71-84
Y	US 5,395,349 A (QUIACHON et al.) 07 March 1995 (07.03.1995) col 4, ln 24-40; col 9, ln 18-20; col 11, ln 2-30, 65-67; col 12, ln 1-18.	15-20 and 77
Y	US 2005/0273006 A1 (STEWART et al.) 08 December 2005 (08.12.2005) fig 4, 5; para [0007], [0011], [0012], [0038], [0040], [0043]-[0047], [0052], [0076].	29-42 and 85-88
Y	US 5,213,570 A (VANDERPE) 25 May 1993 (25.05.1993) col 5, ln 17-36.	43-45 and 89-91
Y	US 2004/0024397 A1 (GRIFFIN III et al.) 05 February 2004 (05.02.2004) fig 2; para [0023], [0025], [0027], [0029], [0030]	60 and 61
Y	US 2001/0020166 A1 (DALY et al.) 06 September 2001 (06.09.2001) para [0008], [0015], [0042].	63, 64, 94 and 95
Y	US 2005/0085769 A1 (MACMAHON et al.) 21 April 2005 (21.04.2005) fig 21, 23A; para [0030], [0187], [0188], [0191].	54-59

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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.
Y	US 2002/0161361 A1 (SHERMAN et al.) 31 October 2002 (31.10.2002) para [0016], [0039].	62