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(54) Title: SYSTEM AND METHOD FOR VISUAL CONFIRMATION OF PULMONARY VEIN ISOLATION DURING ABLATION PROCEDURES

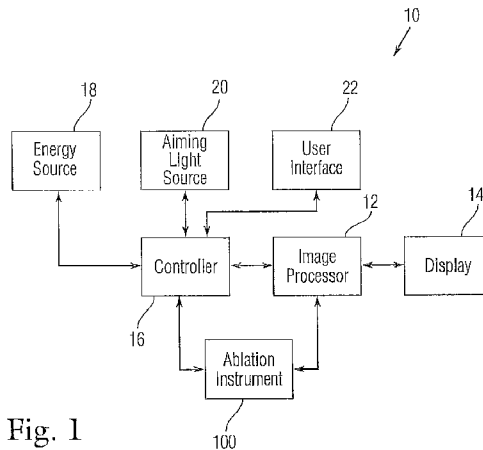


Fig. 1

(57) Abstract: The present disclosure relates to ablation instruments and methods of use thereof, in particular to ablation catheters and methods for providing visual confirmation of pulmonary isolation during an ablation procedure and preferably, in real-time.

**INTERNATIONAL SEARCH REPORT**

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<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b>                  IPC(8) - A61B 1/00 (2016.01)                  CPC - A61B 2018/00577, A61B 5/1459, A61B 5/4836, A61B 2018/00642, A61B 5/4848, A61B 1/00                  According to International Patent Classification (IPC) or to both national classification and IPC</p>																																
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols)                  IPC(8) - A61B 1/00 (2016.01)                  CPC - A61B 2018/00577, A61B 5/1459, A61B 5/4836, A61B 2018/00642, A61B 5/4848, A61B 1/00</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched                  UPC- 600/101-183 CPC- A61B 1/00*; A61B 5/004, A61B 5/0044, A61B 2018/0022, A61B 2018/0022*, A61B 2018/0023*, A61B 2018/0024*, A61B 2018/0025*, A61B 2018/00261, A61B 2018/00285 (Search term limited; see below)</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)                  PubWest (PGPB, USPT, EPAB, JPAB); Google; PatBase (All);                  Search Terms: Ablat*, blood, pulmonary, vein, atrial fibrillation, tissue, imag*, visual*, difference, change, motion, movement, disturbance, perturba*, threshold, control, monitor, feedback, loop, analy*, electrical isolation, isolat*, coagulation, pool, stangat*, optical, CCD, CMOS,</p>																																
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>US 2013/0289358 A1 (MELSKY et al.) 31 October 2013 (31.10.2013) Entire document, especially Abstract, para[0050], para[0055]- para[0058], para[0079]- para[0081], para[0101], para[0126] and FIGS. 2, 7.</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2013/0102862 A1 (MERCADER et al.) 25 April 2013 (25.04.2013) Entire document, para[0052]- para[0053], para[0062], para[0065], para[0073]- para[0074], para[0091]- para[0093] and para[0104].</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2013/0116679 A1 (VAN DER WEIDE et al.) 09 May 2013 (09.05.2013) Entire document, especially Abstract, para[0122]- para[0123], para[0169].</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2012/0157830 A1 (BOYDEN et al.) 21 June 2012 (21.06.2012) Entire document, especially Abstract, para[0103], para[0245], para[0312], para[0315].</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2011/0172658 A1 (GELBART et al.) 14 July 2011 (14.07.2011) Entire document, especially Abstract, para[0084] and para[0099].</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2004/0147920 A1 (KEIDAR) 29 July 2004 (29.07.2004) Entire document, especially Abstract, para[0071], para[0079].</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 8,696,653 B2 (MELSKY et al.) 15 April 2014 (15.04.2014) Entire document.</td> <td>1-17</td> </tr> <tr> <td>A</td> <td>US 2008/0091195 A1 (SLIWA et al.) 17 April 2008 (17.04.2008) Entire document.</td> <td>1-17</td> </tr> <tr> <td>T, A</td> <td>US 2014/0357956 A1 (SALAHIEH et al.) 04 December 2014 (04.12.2014) Entire document.</td> <td>1-17</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	A	US 2013/0289358 A1 (MELSKY et al.) 31 October 2013 (31.10.2013) Entire document, especially Abstract, para[0050], para[0055]- para[0058], para[0079]- para[0081], para[0101], para[0126] and FIGS. 2, 7.	1-17	A	US 2013/0102862 A1 (MERCADER et al.) 25 April 2013 (25.04.2013) Entire document, para[0052]- para[0053], para[0062], para[0065], para[0073]- para[0074], para[0091]- para[0093] and para[0104].	1-17	A	US 2013/0116679 A1 (VAN DER WEIDE et al.) 09 May 2013 (09.05.2013) Entire document, especially Abstract, para[0122]- para[0123], para[0169].	1-17	A	US 2012/0157830 A1 (BOYDEN et al.) 21 June 2012 (21.06.2012) Entire document, especially Abstract, para[0103], para[0245], para[0312], para[0315].	1-17	A	US 2011/0172658 A1 (GELBART et al.) 14 July 2011 (14.07.2011) Entire document, especially Abstract, para[0084] and para[0099].	1-17	A	US 2004/0147920 A1 (KEIDAR) 29 July 2004 (29.07.2004) Entire document, especially Abstract, para[0071], para[0079].	1-17	A	US 8,696,653 B2 (MELSKY et al.) 15 April 2014 (15.04.2014) Entire document.	1-17	A	US 2008/0091195 A1 (SLIWA et al.) 17 April 2008 (17.04.2008) Entire document.	1-17	T, A	US 2014/0357956 A1 (SALAHIEH et al.) 04 December 2014 (04.12.2014) Entire document.	1-17
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<p>Name and mailing address of the ISA/US                  Mail Stop PCT, Attn: ISA/US, Commissioner for Patents                  P.O. Box 1450, Alexandria, Virginia 22313-1450                  Facsimile No. 571-273-8300</p>		<p>Authorized officer:                  Lee W. Young                  PCT Helpdesk: 571-272-4300                  PCT OSP: 571-272-7774</p>																														