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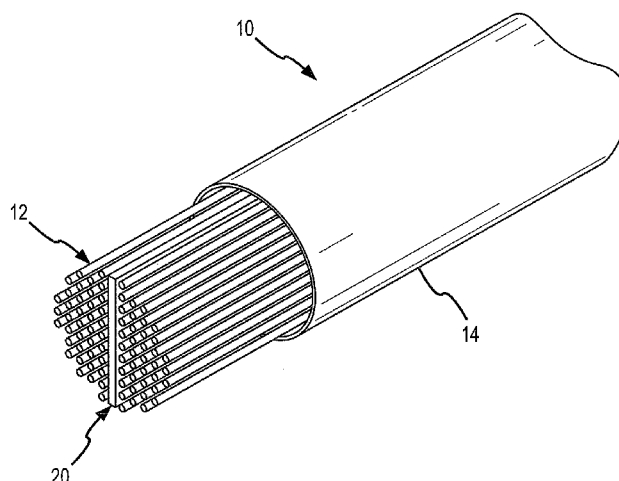
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[Continued on next page]

(54) Title: TISSUE CONTACT AND THERMAL ASSESSMENT FOR BRUSH ELECTRODES



(57) Abstract: Systems and methods are disclosed for tissue contact and thermal assessment, e.g., for tissue ablation procedures. An exemplary brush electrode (10) comprises a plurality of flexible filaments (12) adapted to transfer electrical energy to a tissue. At least one piezoelectric sensor (20) is embedded among the plurality of flexible filaments (12). The at least one piezoelectric sensor (20) is responsive to contact stress of the flexible filaments (12) by generating electrical signals corresponding to the amount of contact stress. An output device is electrically connected to the at least one piezoelectric sensor (20). The output device receives the electrical signals for assessing tissue contact by the flexible filaments (12). The brush electrode (10) may further comprise a sensing device (251) mounted adjacent the at least one piezoelectric sensor (20), wherein the sensing device (251) is a pressure sensor, a thermistor, a thermocouple, or an ultrasound sensor.



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Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61B 5/103 (2008.01)

USPC - 600/587

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 5/103 (2008.01)

USPC - 600/373; 606/41

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)

USPTO EAST System (US, USPG-PUB, EPO, JPO FPRS) PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0159739 A1 (PAUL et al) 21 July 2005 (21.07.2005) entire document	1-24
Y	EP 1491139 A2 (SHLOMO) 29 December 2004 (29.12.2004) entire document	1-24
Y	US 5,947,905 A (HADJICOSTIS et al) 07 September 1999 (07.09.1999) entire document	19, 20

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

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