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(71) Applicant (for all designated States except US): **BSD MEDICAL CORPORATION** [US/US]; 2188 West 2200 South, Salt Lake City, UT 84119 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TURNER, Paul, F.** [US/US]; 4466 Sunset Circle, Bountiful, UT 84010 (US). **YOUD, Thomas, L.** [US/US]; 4207 S. Achilles Drive, Salt Lake City, UT 84124 (US). **HAMILTON, Brianne** [US/US]; 1072 E. Village Way, Alpine, UT 84004 (US).

(74) Agents: **MALLINCKRODT, Robert** et al; Thorpe North & Western, LLP, PO Box 1219, Sandy, UT 84091-1219 (US).

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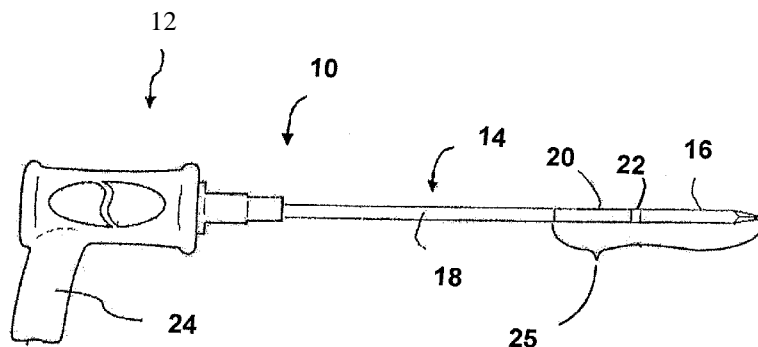


Figure 1

(57) Abstract: A microwave applicator for insertion into living body tissue to provide microwave ablation treatments includes a microwave transmission line extending between an attachment end of the applicator and an antenna toward an insertion end of the applicator with an outer conductive sleeve forming an enclosed fluid space around the transmission line. Circulation of cooling fluid is guided in the fluid space by a guide sleeve. A sensor senses the approximate temperature of the cooling fluid. A portion of the fluid can be injected into tissue surrounding the applicator to hydrate tissue not to be treated. Microwave power may be provided to one or more of the applicators by a system which includes a multiplexing and power splitting circuit providing power outputs tuned for either one or a plurality of applicators and detects the number of applicators and correct connection. The system may provide microwave energy of both 915 MHz and 2450 MHz.

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A. CLASSIFICATION OF SUBJECT MATTER**A61B 18/12(2006.01)i, A61B 18/18(2006.01)1, A61N 5/02(2006.01)1, A61B 17/34(2006.01)1, A61M 25/01(2006.01)1**

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)

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: microwave, applicator, catheter, generator, control, antenna, sleeve

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006-0004351 AI (STEVEN G. ARLESS et al.) 05 January 2006 See paragraphs [18]—[21]; claims 33-38; and fig. 1.	1-27
A	US 2009-0248006 AI (JOSEPH A. PAULUS et al.) 01 October 2009 See paragraphs [27] -[30], [47] -[49]; claims 1-10; and fig. 1.	1-27
A	US 2003-0060813 AI (MARVIN P. LOEB et al.) 27 March 2003 See paragraphs [46] -[57]; claim 1; and figs. 1-2.	1-27
A	US 2009-0005766 AI (JOSEPH BRANNAN) 01 January 2009 See paragraphs [22]—[26]; claims 1-9; and fig. 1.	1-27

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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