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(71) Applicant (for all designated States except US): **NDI MEDICAL, LLC** [US/US]; One Chagrin Highlands, 2000 Auburn Drive, Suite 320, Cleveland, OH 44122 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **STROTHER, Robert, B.** [US/US]; 37895 Rogers Road, Willoughby Hills, OH 44094 (US). **MRVA, Joseph, J.** [US/US]; 34400 Ridge Road Apt 111, Willoughby, OH 44094 (US). **THROPE, Geoffrey, B.**; 22799 Holmwood Road, Shaker Heights, OH 44122 (US).

(74) Agents: **RYAN, Daniel, D.** et al.; Post Office Box 26618, Milwaukee, WI 53226 (US).

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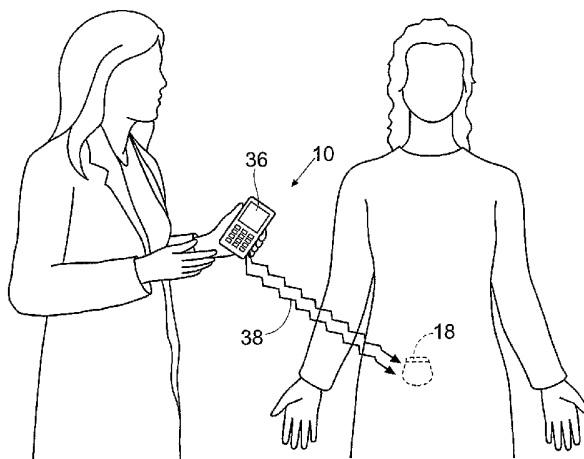
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(54) Title: IMPLANTABLE PULSE GENERATOR FOR PROVIDING FUNCTIONAL AND/OR THERAPEUTIC STIMULATION OF MUSCLES AND/OR NERVES AND/OR CENTRAL NERVOUS SYSTEM TISSUE



(57) Abstract: Improved assemblies, systems, and methods provide an implantable pulse generator for prosthetic or therapeutic stimulation of muscles, nerves, or central nervous system tissue, or any combination. The implantable pulse generator is sized and configured to be implanted subcutaneously in a tissue region. The implantable pulse generator includes an electrically conductive laser welded titanium case. Control circuitry is located within the case, and includes a primary cell or rechargeable power source, a receive coil for receiving an RF magnetic field to recharge the rechargeable power source, and a microcontroller for control of the implantable pulse generator. Improved assemblies, systems, and methods also provide a stimulation system for prosthetic or therapeutic stimulation of muscles, nerves, or central nervous system tissue, or any combination. The stimulation system provides at least one electrically conductive surface, a lead connected to the electrically conductive surface, and an implantable pulse generator electrically connected to the lead.

WO 2005/123181 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/20506

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC: A61N 1/08(2006.01)</p> <p>USPC: 607/48 According to International Patent Classification (IPC) or to both national classification and IPC</p>																							
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) U.S. : 607/36,46,48</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST: neurostimulator, neuromuscular, stimulation, implantable, telemetry</p>																							
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</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>X</td> <td>US 6,690,974 B2 (ARCHER et al.) 10 February 2004 (10.02.2004) column 18 lines 47-53, 60-64; column 19 lines 11-12, 40-41,46-50; column 20 lines 57-66.</td> <td>1-6, 12 and 13</td> </tr> <tr> <td>X</td> <td>US 6,453,198 B1 (TORGERSON et al.) 17 September 2002 (17.09.2002) column 2 lines 20-25; column 4 lines 26-32, 44-47, 50-51, 63-66; column 5 lines 15-16; column 6 lines 37, 61-63; column 7 lines 11-44 .</td> <td>1-6, 9, 10, 12, 13</td> </tr> <tr> <td>A</td> <td>US 6,163,725 A (PECKHAM et al.) 19 December 2000 (19.12.2000)</td> <td></td> </tr> <tr> <td>Y</td> <td>US 5,370,663 A (LIN) 6 December 1994 (06.12.1994) column 5 lines 35-45</td> <td>7,8,11</td> </tr> <tr> <td>A</td> <td>US 5,354,320 A (SCHALDACH et al.) 11 October 1994 (11.10.1994)</td> <td></td> </tr> <tr> <td>A</td> <td>US 4,232,679 A (SCHULMAN) 11 November 1980 (11.11.1980)</td> <td></td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 6,690,974 B2 (ARCHER et al.) 10 February 2004 (10.02.2004) column 18 lines 47-53, 60-64; column 19 lines 11-12, 40-41,46-50; column 20 lines 57-66.	1-6, 12 and 13	X	US 6,453,198 B1 (TORGERSON et al.) 17 September 2002 (17.09.2002) column 2 lines 20-25; column 4 lines 26-32, 44-47, 50-51, 63-66; column 5 lines 15-16; column 6 lines 37, 61-63; column 7 lines 11-44 .	1-6, 9, 10, 12, 13	A	US 6,163,725 A (PECKHAM et al.) 19 December 2000 (19.12.2000)		Y	US 5,370,663 A (LIN) 6 December 1994 (06.12.1994) column 5 lines 35-45	7,8,11	A	US 5,354,320 A (SCHALDACH et al.) 11 October 1994 (11.10.1994)		A	US 4,232,679 A (SCHULMAN) 11 November 1980 (11.11.1980)	
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.</p>																							
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