

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 December 2006 (07.12.2006)

PCT

(10) International Publication Number
WO 2006/130202 A3

(51) International Patent Classification:

A61N 1/00 (2006.01)

(21) International Application Number:

PCT/US2006/009889

(22) International Filing Date: 16 March 2006 (16.03.2006)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11/140,069	27 May 2005 (27.05.2005)	US
11/140,068	27 May 2005 (27.05.2005)	US
11/140,067	27 May 2005 (27.05.2005)	US
11/139,936	27 May 2005 (27.05.2005)	US
11/139,923	27 May 2005 (27.05.2005)	US
11/140,071	27 May 2005 (27.05.2005)	US
11/140,066	27 May 2005 (27.05.2005)	US
11/140,065	27 May 2005 (27.05.2005)	US
11/140,072	27 May 2005 (27.05.2005)	US
11/140,070	27 May 2005 (27.05.2005)	US

(71) Applicant (for all designated States except US): **BIO-PHAN TECHNOLOGIES, INC.** [US/US]; 150 Lucius Gordon Drive, Suite 215, West Henrietta, New York 14586 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MACDONALD, Stuart, G.** [US/US]; 4663 East Lake Road, Pultneyville, New York 14538 (US).

(74) Agents: **BASCH, Duane, C** et al.; BASCH & NICKERSON LLP, 1777 Penfield Road, Penfield, New York 14526 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELECTROMAGNETIC INTERFERENCE IMMUNE PACING/DEFIBRILLATION LEAD

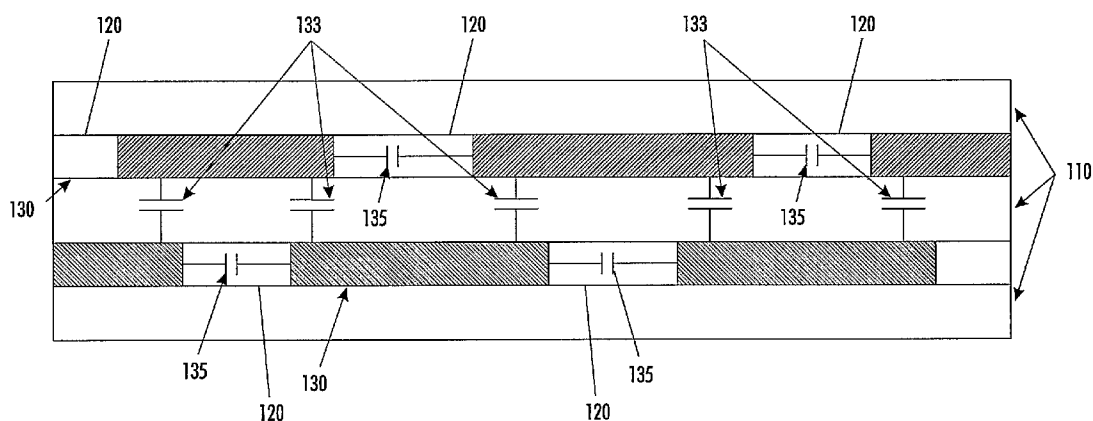


FIG. 2

(57) Abstract: An electromagnetic interference immune defibrillator lead has a first electromagnetic insulating layer. A first layer is formed on the first electromagnetic insulating layer, the first layer having a plurality of first conductive rings composed of first conductive material, each first conductive ring being separated by first insulating material. A second electromagnetic insulating layer is formed on the first layer. A second layer is, formed on the second electromagnetic insulating layer, the second layer having a plurality of second conductive rings composed of second conductive material, each second conductive ring being separated by second insulating material. A third electromagnetic insulating layer is formed on the second layer. The second conductive rings of second conductive material are positioned such that a second conductive ring overlaps a portion of a first conductive ring and overlaps a portion of a second conductive ring, the second conductive ring being adjacent to the first conductive ring. The second electromagnetically insulating layer is composed of a self-healing dielectric material.



WO 2006/130202 A3

**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))*

Published:

- *with international search report*

(88) Date of publication of the international search report:
23 April 2009

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/09889

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61N 1/00(2006.01)

USPC: 607/119

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)

U.S. : 607/116, 119, 120; 604/411, 412; 174/32, 33, 34, 36, 103, 104, 107, 108, 109; 156/ 51, 52, 53, 54, 55, 56;

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/0199069 A1 (CONNELLY et al) 7 October 2004 (07.10.2004), entire document.	1, 22, 25, 46, 49, 72, 95-97, 108, 109, 120, 141, 144, 165, 192, 202
Y	US 5,490,035 (YEN et al) 6 February 1996 (06.02.1996), entire document.	2-21, 23, 24, 26-45, 47, 48, 50-71, 73-94, 98-107, 110-119, 121-140, 142, 143, 145-164, 166-191, 193-201, 203-211
Y	US 2003/0083726 A (ZEIJLEMAKER et al) 1 May 2003 (01.05.2003), entire document.	168-191

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

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"E" earlier application or patent published on or after the international filing date

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"O" document referring to an oral disclosure, use, exhibition or other means

"&"

document member of the same patent family

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

Date of the actual completion of the international search

21 June 2008 (21.06.2008)

Date of mailing of the international search report

12 AUG 2008

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

Authorized officer

Carl H Layno

Telephone No. (571)272-2975

Facsimile No. (571) 273-3201