



- (51) International Patent Classification:
A61N 1/36 (2006.01) *A61F 2/24* (2006.01)
- (21) International Application Number:
PCT/US2014/040432
- (22) International Filing Date:
1 June 2014 (01.06.2014)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
13/916,858 13 June 2013 (13.06.2013) US
- (71) Applicant: **MEDTRONIC VASCULAR GALWAY** [IE/US]; Parkmore Business Park West, Ballybrit, Galway (IE).
- (72) Inventors: **CASLEY, Mark**; c/o IP Legal Department, Medtronic Vascular Inc., 3576 Unocal Place, Santa Rosa, California 95403 (US). **COSTELLO, Declan**; c/o IP Legal Department, Medtronic Vascular Inc., 3576 Unocal Place, Santa Rosa, California 95403 (US).
- (74) Agent: **HAYNES, William L.**; c/o IP Legal Department, Medtronic Vascular Inc., 3576 Unocal Place, Santa Rosa, California 95403 (US).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,

[Continued on next page]

(54) Title: DELIVERY SYSTEM WITH PACING ELEMENT

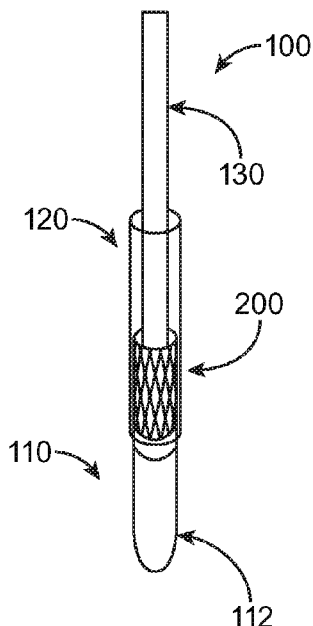


FIG. 1A

(57) **Abstract:** Medical device delivery assemblies are disclosed. The assembly may include a catheter-based delivery system (100). The assembly may include a pacing element (112) to pace a patient's heart before, during, or after a procedure. The pacing element may be a detachable, implanting pacing element. The pacing element may be an implantable pacemaker and the implantable pacemaker may be disposed on a catheter-based delivery system. The assembly may include a prosthetic heart valve (200) with one or more pacing elements on it. The pacing element may include a pacing strip or strips. These strips may be conductive or insulative. These strips may prevent, treat, or correct abnormal electrical communication in a heart.





MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, KM, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))

Published:

— with international search report (Art. 21(3))

(88) Date of publication of the international search report:

19 March 2015

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/040432

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61N1/36 A61F2/24
ADD.
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)
A61N A61F
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)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 2010/198346 A1 (KEOGH JAMES R [US] ET AL) 5 August 2010 (2010-08-05) paragraphs [0035], [0039], [0042], [0046], [0047], [0057], [0058], [0068], [0069], [0075], [0079], [0119], [0139], [0158], [0165]; figures 1-14	1,2,6 7,8 3-5,20
X Y	US 2009/299420 A1 (SHUROS ALLAN C [US] ET AL) 3 December 2009 (2009-12-03) paragraphs [0007] - [0008], [0011] - [0013]; figures 1-2	1,2,6,8 7,8
X	WO 2008/027261 A1 (CARDIAC PACEMAKERS INC [US]; BAYNHAM TAMARA COLETTE [US]; GIROUARD STE) 6 March 2008 (2008-03-06) page 8, line 10 - page 9, line 2; claim 28; figures 1-2	1,2,7,8
	----- -/--	

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

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

"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)

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

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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search 26 September 2014	Date of mailing of the international search report 22/01/2015
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Prechtel, A

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/040432

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/021505 A1 (HASTINGS ROGER [US] ET AL) 24 January 2008 (2008-01-24) paragraphs [0067] - [0070]; figures 11a,11b -----	1,6,8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/040432

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: **9-15**
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-8, 20

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8, 20

A medical device delivery assembly with an implantable pacemaker at the distal tip.

2. claims: 16-19

A medical device delivery assembly with a prosthetic heart valve with a frame that comprises regions that are electrically conductive and regions that are insulating.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/040432

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010198346 A1	05-08-2010	US 2010198346 A1	05-08-2010
		US 2013072786 A1	21-03-2013
		US 2014221823 A1	07-08-2014
		WO 2011041123 A2	07-04-2011

US 2009299420 A1	03-12-2009	NONE	

WO 2008027261 A1	06-03-2008	AU 2007290672 A1	06-03-2008
		CN 101511423 A	19-08-2009
		EP 2056924 A1	13-05-2009
		JP 5368306 B2	18-12-2013
		JP 2010502273 A	28-01-2010
		US 2008071315 A1	20-03-2008
		US 2010130913 A1	27-05-2010
		WO 2008027261 A1	06-03-2008

US 2008021505 A1	24-01-2008	US 2008021505 A1	24-01-2008
		WO 2008111998 A1	18-09-2008
