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(74) Agents: **HEIMBECHER, Reed, R.** et al, Legal Department, St Jude Medical, AF Division, Inc., 14901 DeVeau Place, Minnetonka, Minnesota 55345 2126 (US)

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(71) Applicant (for all designated States except US): **ST. JUDE MEDICAL, ATRIAL FIBRILLATION DIVISION, INC.** [US/US], 6500 Wedgwood Road, Maple Grove, Minnesota 55311 3642 (US)

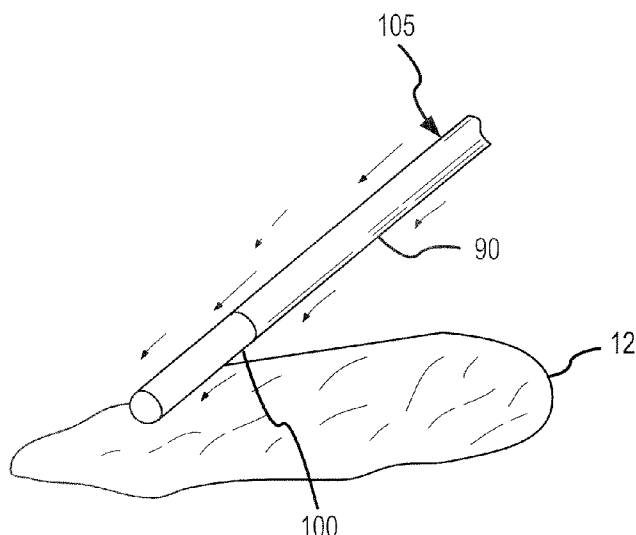
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(72) Inventors; and

(75) Inventors/Applicants (for US only): **BELHE, Kedar Ravindra** [US/US], 1601 Hill Ridge Terrace, Minnetonka, Minnesota 55305 (US) **PAUL, Saurav** [IN/US], 2250

[Continued on next page]

(54) Title: PRESSURE SENSITIVE CONDUCTIVE COMPOSITE CONTACT SENSOR AND METHOD FOR CONTACT SENSING



(57) Abstract: A catheter assembly for assessing contact between the catheter assembly and tissue is disclosed. The assembly includes a catheter shaft and a pressure sensitive conductive composite member whose electrical resistance varies with pressure applied to the catheter assembly. The assembly also includes at least one measurement terminal to permit the measurement of changes in the electrical characteristics of the pressure sensitive conductive composite member. The assembly may optionally include a measurement device to measure resistance, impedance and/or other electrical characteristics. The assembly may utilize a reference electrode secured to the patient's tissue, which permits the measurement device to measure changes between the reference electrode and the at least one measurement terminal. Optionally, the assembly may include a conductive outer layer. Also disclosed are sensor assemblies, contact sensor, methods of contact sensing, and methods of manufacturing relating to the use of pressure sensitive conductive composites.

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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
73/779, 128/899, 600/374, 606/32

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST(USPT,PGPB,EPAB,JPAB), Google Scholar,

Search Terms Used quantum tunneling, quantum mechanical tunneling, pressure sensor, force sensor, pressure sensitive conductive composite, catheter, reference, electrode, ground, catheter, endoscope

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 6,221,023 B1 (MATSUBA et al) 24 April 2001 (24 04 2001) Entire document, especially col 3, in 12-67, col 7, in 50-61, col 8, in 6-20 and FIGS 1, 14A and 16	1-4 18-20 22-24
Y		5-11 16, 17, 21 25-30
Y	US 2006/0137464 A1 (BAUDENDISTEL) 29 June 2006 (29 06 2006) para[0002], para[0005] para[0016], para[0019] and FIGS 2 and 3	5-17 and 25-30
Y	US 2006/0278248 A1 (VISWANATHAN) 14 December 2006 (14 12 2006) para[0004], para[0025], para[0026] and FIG 3	8, 12-15 and 21

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Mail Stop PCT, Attn ISA/US, Commissioner for Patents
P O Box 1450, Alexandria, Virginia 22313-1450

Facsimile No 571-273-3201

Authorized officer

Lee W Young

PCT helpdesk 571 272-4300
PCTOSP 571-272-7774