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[Continued on next page]

(54) Title: SELF-RETAINING SUTURES WITH HEAT-CONTACT MEDIATED RETAINERS

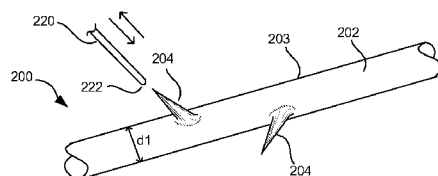


FIG. 2A

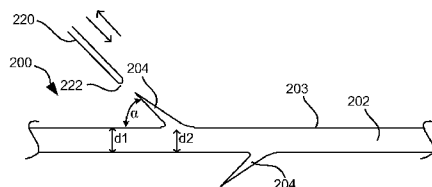


FIG. 2B

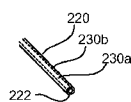


FIG. 2C

(57) Abstract: Provided herein are sutures to be used in a procedure applied to tissue, and methods for forming such sutures. A suture can include an elongated suture body and a plurality of heat-contact mediated retainers extending from and along the elongated suture body. The heat-contact mediated retainers can be formed by temporarily contacting the elongated suture body with one or more heat-element.



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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

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKOMPASS(KPA, PAJ, FPD, USPATFULL) in KIPO, CA online, google & keywords: barb, suture, retain, heat, melt

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2007-0005110 A1 (COLLIER et al.) 04 January 2007 See the abstract; paragraphs [0020]-[0022],[0025]; figures 1, 2a-2c, 3; claims 1, 10	16-20 1-15, 21, 22
X A	US 2003-0149447 A1 (MORENCY et al.) 07 August 2003 See the abstract; paragraphs [0033],[0050],[0052],[0054],[0056]; figures 1A, 1H, 1I, 4, 9, 10; claim 1	16-20 1-15, 21, 22
X A	US 2006-0135995 A1 (RUFF et al.) 22 June 2006 See the abstract; paragraphs [0061],[0064],[0068],[0070],[0071]; figures 1A, 2A; claims 1, 2, 16	16-20 1-15, 21, 22
X A	US 2007-0005109 A1 (POPADIUK et al.) 04 January 2007 See the abstract; paragraphs [0020],[0021]; figure 1; claims 15-17	16-20 1-15, 21, 22
X A	US 2007-0208355 A1 (RUFF) 06 September 2007 See the abstract; paragraphs [0010],[0026]-[0028]; figures 1,3	16-20 1-15, 21, 22



Further documents are listed in the continuation of Box C.



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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0005110 A1	04.01.2007	AU 2006-266242 A1 CA 2613839 A1 CN 101296661 A0 EP 1895913 A1 JP 2009-500074 A KR 10-2008-0039345 A WO 2007-005296 A1	11.01.2007 11.01.2007 29.10.2008 12.03.2008 08.01.2009 07.05.2008 11.01.2007
US 2003-0149447 A1	07.08.2003	NONE	
US 2006-0135995 A1	22.06.2006	AU 2003-279048 A1 CA 2500404 A1 CN 1830200 A0 EP 1559266 A2 EP 1559266 B1 EP 1559266 A4 EP 1858243 A1 JP 2006-516902 A KR 10-2005-0065568 A US 2004-0088003 A1 WO 2004-030705 A2 WO 2004-030705 A3	23.04.2004 15.04.2004 06.09.2006 03.08.2005 15.08.2007 11.01.2006 21.11.2007 13.07.2006 29.06.2005 06.05.2004 15.04.2004 15.04.2004
US 2007-0005109 A1	04.01.2007	WO 2007-005291 A3 WO 2007-005291 A2	11.01.2007 11.01.2007
US 2007-0208355 A1	06.09.2007	US 06241747 B1 US 2004-0093028 A1 US 07226468 B2 US 2008-0221617 A1	05.06.2001 13.05.2004 05.06.2007 11.09.2008