(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 August 2007 (09.08.2007)

PCT

(10) International Publication Number
WO 2007/089603 A3

(51) International Patent Classification:
A61B 17/06 (2006.01)

(21) International Application Number:
PCT/US2007/002204

(22) International Filing Date: 29 January 2007 (29.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/763,038 27 January 2006 (27.01.2006) US

(71) Applicant *(for all designated States except US)*: **SUTURTEK INCORPORATED** [US/US]; 51 Middlesex Street, North Chelmsford, MA 01863 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **MEADE, John, C.** [US/US]; 85 Millville Road, Mendon, MA 01756 (US). **MACARTHUR, Douglas, M.** [US/US]; 18 Olde Surrey Drive, Acton, MA 01720 (US). **BLINN, Stephen, M.** [US/US]; 14 Upham Road, Amherst, NH 03031 (US). **SAULINER, Christopher** [US/US]; 12 B Street, Brunswick, ME 04011 (US). **EDWARDS, Brian, R.** [US/US]; 85 Mill Street, Raymond, ME 04071 (US). **BRECHER, Gerald, I.** [US/US]; 488 Pleasant Street, North Andover, MA 01845 (US).

(74) Agent: **POLLACK, Brian, R.**; EDWARDS ANGELL PALMER & DODGE LLP, P.o.box 55874, Boston, MA 02205 (US).

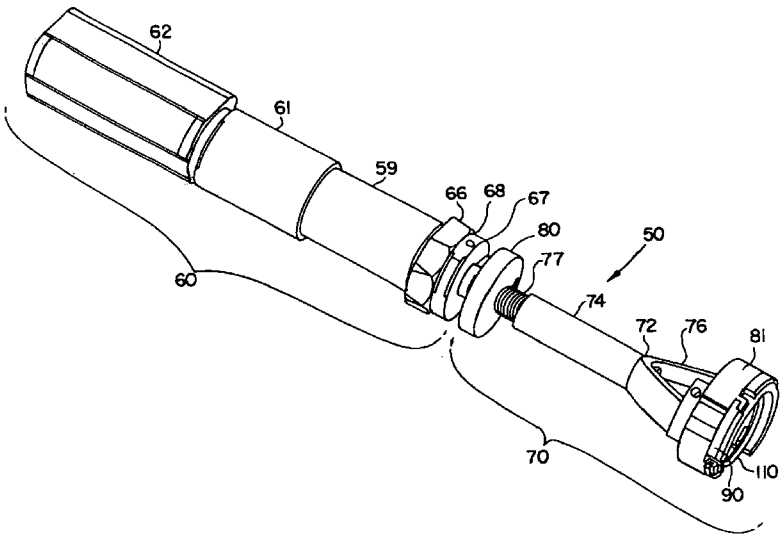
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,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

Published:
— *with international search report*

[Continued on next page]

(54) **Title:** APPARATUS AND METHOD FOR TISSUE CLOSURE



(57) **Abstract:** A tissue closure device includes a pusher assembly having a drive arm extending from a drive shaft and a drive mechanism at a distal end of the drive arm, wherein the drive mechanism is capable of releasably engaging and rotating a suturing needle having a pointed end and a blunt end about a rotational axis and a cartridge having a protective housing and the suturing needle, the cartridge extending from a distal end of a cartridge holder assembly and releasably attached to the cartridge holder assembly. A pointed end of the suturing needle may be positioned within the protective housing before and after a complete rotation of the suturing needle about the rotational axis. A removable electronic module may be provided controlled by an actuator that mechanically engages the drive shaft to rotate the drive shaft and the drive mechanism, thereby rotating the suturing needle about the rotational axis.

WO 2007/089603 A3

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
10 January 2008

(15) Information about Corrections:

Previous Corrections:
see PCT Gazette No. 44/2007 of 1 November 2007
see PCT Gazette No. 38/2007 of 20 September 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.