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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 April 2003 (10.04.2003)

PCT

(10) International Publication Number
WO 03/028544 A3

(51) International Patent Classification[7]: A61B 17/12

(21) International Application Number: PCT/US02/31764

(22) International Filing Date: 3 October 2002 (03.10.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/327,704 4 October 2001 (04.10.2001) US

(71) Applicant and
(72) Inventor: **GIBBENS, George, H., III** [US/US]; 409 Forest Avenue, Shreveport, LA 71104-4401 (US).

(74) Agents: **NAIFEH, Bill, R.** et al.; Haynes and Boones, LLP, Suite 3100, 901 Main Street, Dallas, TX 75202-3789 (US).

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

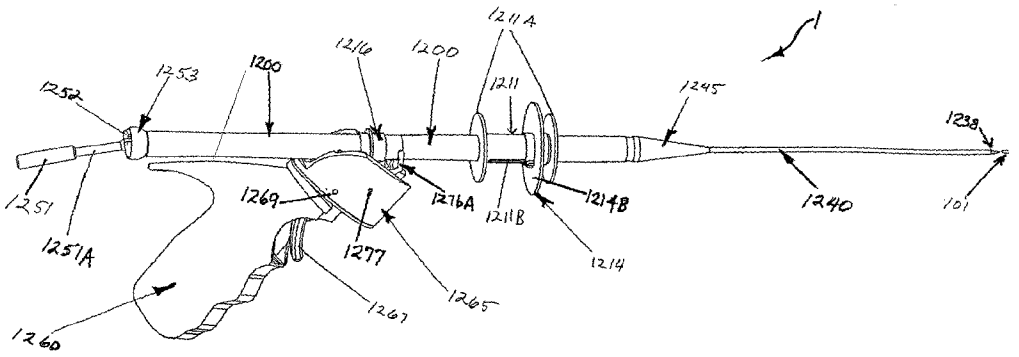
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *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:
15 May 2003

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.

(54) Title: CYCLING SUTURING AND KNOT-TYING DEVICE



(57) Abstract: A cycling suturing and knot-tying device (1) is characterized by an arcuate fixed, grooved or recessed way (102) providing in a correspondingly-shaped support frame (775) for accomodating a curved needle (50) fitted with thread, and frictional needle-engaging devices (112) provided in the way (102) for selectively engaging the needle (50) and driving the needle (50) in one or both rotational directions to suture a wound with the thread. A pistol-grip operating apparatus (1267) having a transmission tube (1200) that mounts the frame (775) and the way (102) in articulating relationship and rotates and articulates with respect to the pistol grip (1267) carries various operating elements that inerface with the frictional needle-engaging devices (112) in the way. In at least one embodiment, needle direction-adjusting elements (134, 136) are provided in the frame (775) in cooperation with selected devices in the way (102) for determining the direction of needle rotation. Auxiliary thread-handling or incrementing and knot-tying devices (1101, 1000) are also disclosed.

WO 03/028544 A3