(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 A2

(51) International Patent Classification[7]: A61B

(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:
— *without international search report and to be republished upon receipt of that report*

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.

WO 03/028544 A2

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

(57) Abstract: A cycling suturing and knot-tying device is characterized by an arcuate fixed, grooved or recessed way provided in a correspondingly-shaped support frame for accommodating a curved needle fitted with thread, and frictional needle-engaging devices provided in the way for selectively engaging the needle and driving the needle in one or both rotational directions to suture a wound with the thread. Selective articulation of the frame and the way and driving of the needle in the way by positioning the frictional needle-engaging devices with respect to the needle are typically effected by manipulation of a pistol-grip operating apparatus having a transmission tube that mounts the frame and the way in articulating relationship and rotates and articulates with respect to the pistol grip and carries various operating elements that interface with the frictional needle-engaging devices in the way. In at least one embodiment needle direction-adjusting elements are provided in the frame in cooperation with selected devices in the way for determining the direction of needle rotation responsive to manipulation of an interfacing operating element located on the operating apparatus. Auxiliary thread-handling or incrementing and knot-tying devices are also disclosed.