

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 November 2007 (15.11.2007)

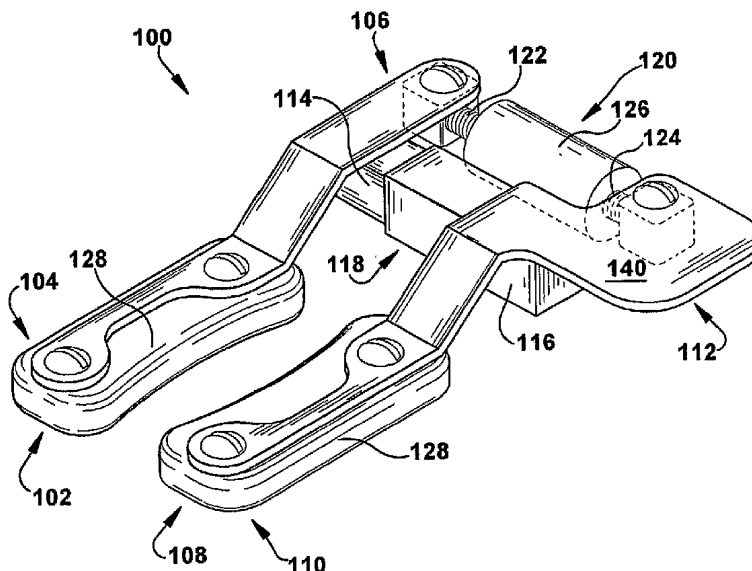
PCT

(10) International Publication Number
WO 2007/130609 A3

- (51) International Patent Classification:
A61B 17/02 (2006.01)
- (21) International Application Number:
PCT/US2007/010895
- (22) International Filing Date: 4 May 2007 (04.05.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/798,808 5 May 2006 (05.05.2006) US
- (71) Applicant: THE CLEVELAND CLINIC FOUNDATION [US/US]; 9500 Euclid Avenue, Cleveland, OH 44195 (US).
- (72) Inventors: DURRANI, Amir, K.; 30 Severance Circle, Apt. #124, Cleveland Heights, OH 44118 (US). BURTON, Lucas, J.; 312 S. Wesley Street, Orleans, IN 47452 (US). HOAGLAND, Benjamin, D.; 3057 Carleton Road, Birmingham, AL 35215 (US). TUMKUR, Santosh, K; 771 Regent Road, Cincinnati, OH 45245 (US).
- (74) Agent: WESORICK, Richard, S.; Tarolli, Sundheim, Covell & Tummino L.L.P., 1300 East Ninth Street, Suite 1700, Cleveland, OH 44114 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, 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, LY, MA, MD, ME, 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, 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, MT, 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
 — with amended claims
- (88) Date of publication of the international search report: 3 January 2008
 Date of publication of the amended claims: 3 April 2008

(54) Title: APPARATUS AND METHOD FOR STABILIZING BODY TISSUE



(57) Abstract: An apparatus for holding a body tissue in a desired orientation includes a first leg and a second leg. The first leg includes a first guide post extending toward the second leg. The second leg includes a second guide post extending toward the first leg. The first and second guide posts telescopically engage to form a guide track. A first threaded guide post extends from the first leg toward the second leg, and a second threaded post extends from the second leg toward the first leg. A turnbuckle body connects the first and second threaded posts to form a turnbuckle assembly. The proximal ends of the first and second legs are movably connected by the guide track and the turnbuckle assembly. The distal ends of the first and second legs each include a suction pad adapted to apply suction pressure to the body tissue to hold the body tissue in the desired orientation.

WO 2007/130609 A3

Having described the invention, the following is claimed:

1. An apparatus for holding a body tissue in a desired orientation, the apparatus comprising:
 - a first leg having longitudinally spaced distal and proximal ends;
 - a second leg, laterally spaced from the first leg, adapted for lateral motion with respect to the first leg, and having longitudinally spaced distal and proximal ends;
 - the distal ends of the first and second legs for contacting the body tissue;
 - the first leg including a first guide post extending toward the second leg, the second leg including a second guide post extending toward the first leg, the first and second guide posts telescopically engaging to form a guide track;
 - a first threaded post extending from the first leg toward the second leg;
 - a second threaded post extending from the second leg toward the first leg;
 - a turnbuckle body connecting the first and second threaded posts to form a turnbuckle assembly;
 - the proximal ends of the first and second legs being movably connected by the guide track and the turnbuckle assembly; and
 - the distal ends of the first and second legs each including a suction pad adapted to apply suction pressure to the body tissue to hold the body tissue in the desired orientation.
2. The apparatus of Claim 1, wherein each suction pad includes one or more suction ports, and a plurality of suction tubes connect the suction ports in fluid communication with a vacuum source.
3. The apparatus of Claim 2, wherein each suction tube connects one suction port with the vacuum source, and each suction tube provides independent suction control to an associated suction port.

4. The apparatus of Claim 1, wherein each suction pad includes one or more suction ports, each suction port includes a suction cup, and a plurality of suction tubes connect the suction cups in fluid communication with a vacuum source.

5. The apparatus of Claim 1, wherein the turnbuckle body is smaller in a longitudinal dimension than in a lateral dimension.

6. The apparatus of Claim 1, wherein the distal ends of the first and second legs each include a suction pad adapted to engage body tissue using suction pressure, and the turnbuckle assembly is adapted to provide lateral tension to the body tissue engaged by the suction pads.

7. The apparatus of Claim 1, wherein one of the first and second legs includes a mounting plate adapted to engage with a stabilizing arm and hold the body tissue in a desired orientation with respect to the stabilizing arm.