

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 February 2020 (27.02.2020)



(10) International Publication Number
WO 2020/041558 A1

- (51) **International Patent Classification:**
A61F 2/24 (2006.01)
- (21) **International Application Number:**
PCT/US2019/047640
- (22) **International Filing Date:**
22 August 2019 (22.08.2019)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/721,404 22 August 2018 (22.08.2018) US
- (71) **Applicant:** **EDWARDS LIFESCIENCES CORPORATION** [US/US]; One Edwards Way, Irvine, CA 92614 (US).
- (72) **Inventors:** **CODY, James, R.**; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). **SHIH, Ping-Yang**; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). **TRAN, Tiffany, Diemtrinh**; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US).
- (74) **Agent:** **SMITH, Hans, P.** et al.; Edwards Lifesciences, One Edwards Way, Irvine, CA 92614 (US).
- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— with international search report (Art. 21(3))

(54) **Title:** AUTOMATED HEART VALVE MANUFACTURING DEVICES AND METHODS

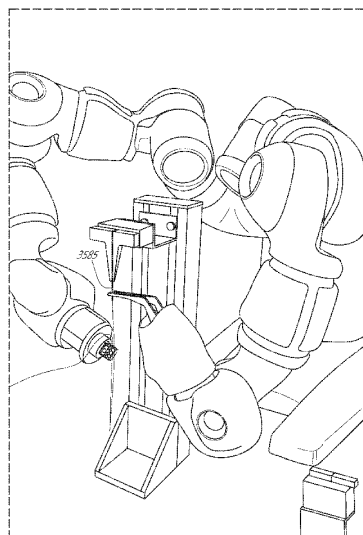


FIG. 35F

(57) **Abstract:** An automated system that can be used for prosthetic heart valve manufacturing or suturing procedures. The system can include a first automated fixture that includes an articulating arm and a target device holder. The system can also include one or more additional automated fixtures, which can be configured as one or more suturing arms that include another articulating arm and a needle holder. The first automated fixture can be configured to rotate a target device held by the holder to allow the one or more additional automated fixtures to perform operations such as form sutures on the target device without intervention of a human operator. The system can include a targeting system configured to provide positioning feedback to the system.



WO 2020/041558 A1