

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
14 September 2017 (14.09.2017)



(10) International Publication Number
WO 2017/156175 A3

- (51) **International Patent Classification:**
A61F 2/24 (2006.01) *A61B 5/00* (2006.01)
- (21) **International Application Number:**
PCT/US2017/021431
- (22) **International Filing Date:**
08 March 2017 (08.03.2017)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/305,347 08 March 2016 (08.03.2016) US
62/417,206 03 November 2016 (03.11.2016) US
15/452,617 07 March 2017 (07.03.2017) US
- (71) **Applicant:** EDWARDS LIFESCIENCES CORPORATION [US/US]; One Edwards Way, Irvine, CA 92614 (US).
- (72) **Inventors:** MARQUEZ, Salvador; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). CHANG, Da-Yu; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US).

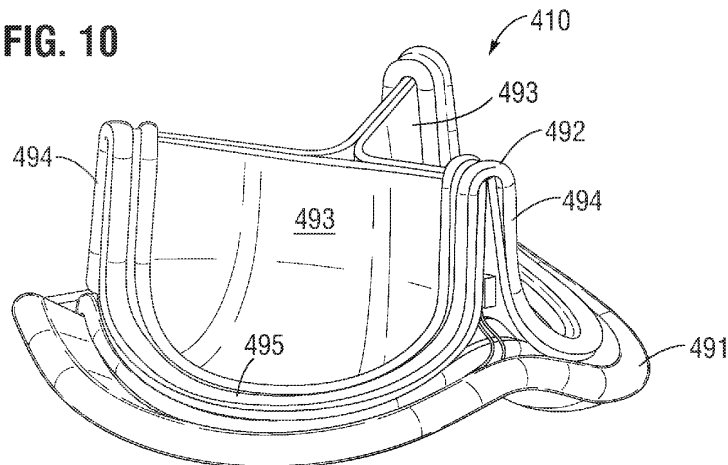
WOO, Cindy; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). YANG, Hao-Chung; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). DANG, Lynn, T.; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). SANGUINETTI, Javier, A.; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). SIEMONS, Alexander, H.; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). KEIDAR, Yaron; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). LIN, Virginia, Qi; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). CONKLIN, Brian, S.; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US). BOBO, Donald, E., Jr.; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US).

(74) **Agent:** RICHARDSON, Thomas, C. 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,

(54) **Title:** VALVE IMPLANT WITH INTEGRATED SENSOR AND TRANSMITTER

FIG. 10



(57) **Abstract:** Sensor-integrated prosthetic valves that can comprise a variety of features, including a plurality of valve leaflets, a frame assembly configured to support the plurality of valve leaflets and define a plurality of commissure supports terminating at an outflow end of the prosthetic valve, a sensor device associated with the frame assembly and configured to generate a sensor signal, for example, a sensor signal indicating deflection of one or more of the plurality of commissure supports, and a transmitter assembly configured to receive the sensor signal from the sensor device and wirelessly transmit a transmission signal that is based at least in part on the sensor signal.

[Continued on next page]

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, 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))

(88) Date of publication of the international search report:

26 July 2018 (26.07.2018)