

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
22 May 2020 (22.05.2020)



(10) International Publication Number
WO 2020/102487 A1

(51) International Patent Classification:
A61F 2/24 (2006.01)

(21) International Application Number:
PCT/US2019/061392

(22) International Filing Date:
14 November 2019 (14.11.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/767,412 14 November 2018 (14.11.2018) US

(71) Applicant: **EDWARDS LIFESCIENCES CORPORATION** [US/US]; One Edwards Way, Irvine, CA 92614 (US).

(72) Inventors: **MAIMON, David**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL). **BUKIN, Michael**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL).

sarea (IL). **LEVI, Tamir, S.**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL). **NIR, Noam**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL). **YOHANAN, Ziv**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL). **KERET, Amir**; Haogen St. 13 App 6, Tirat Hacarmel (IL). **SHERMAN, Elena**; Caesarea Business Park, 8 Haeshel Street, 30889 Caesarea (IL).

(74) Agent: **GERMAN, Joel, B.** 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,

(54) Title: PROSTHETIC HEART VALVE HAVING COMMISSURE SUPPORT ELEMENT

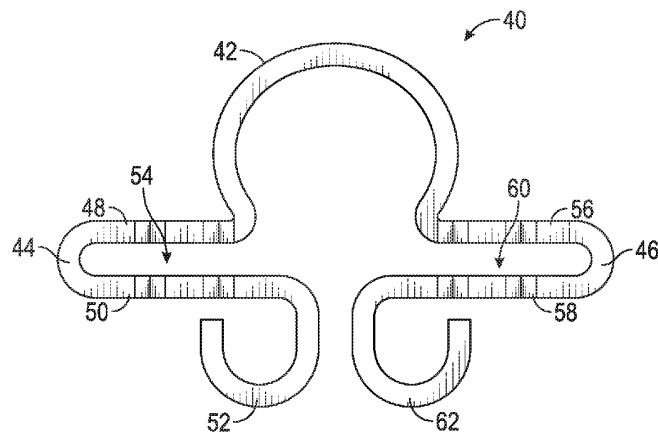


FIG. 4

(57) Abstract: A prosthetic heart valve includes an annular frame including a plurality of angled strut members that is radially collapsible to a collapsed configuration and radially expandable to an expanded configuration. The frame has an inflow end and an outflow end, and includes a leaflet structure positioned within the frame, the leaflet structure comprising a plurality of leaflets arranged to form a plurality of commissures. The frame includes a plurality of commissure support elements, each commissure support element being positioned at one of the commissures. Each of the commissure support elements has a coupling portion coupled to the frame and first and second members coupled to the coupling portion and extending in a direction toward the inflow end of the frame or toward the outflow end of the frame. The leaflets of each commissure are received between the first and second members of the respective commissure support element.

[Continued on next page]

WO 2020/102487 A1

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))