

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
26 March 2020 (26.03.2020)



(10) International Publication Number
WO 2020/061399 A1

- (51) **International Patent Classification:**
A61M 1/10 (2006.01) *A61M 1/12* (2006.01)
- (21) **International Application Number:**
PCT/US2019/052063
- (22) **International Filing Date:**
20 September 2019 (20.09.2019)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/734,702 21 September 2018 (21.09.2018) US
- (71) **Applicant:** **ABIOMED, INC.** [US/US]; 22 Cherry Hill Drive, Danvers, MA 01923 (US).
- (72) **Inventors:** **GANDHI, Rahul, Suresh**; C/o Abiomed, Inc., 22 Cherry Hill Drive, Danvers, MA 01923 (US). **ZHANG, Tao**; C/o Abiomed, Inc., 22 Cherry Hill Drive, Danvers, MA 01923 (US).

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))

- (74) **Agent:** **LARSEN, Charles, D.** et al.; White & Case LLP, 75 State Street, Boston, MA 02109 (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,

(54) **Title:** USE OF OPTICAL FIBER SENSOR AS A DIAGNOSTIC TOOL IN CATHETER-BASED MEDICAL DEVICES

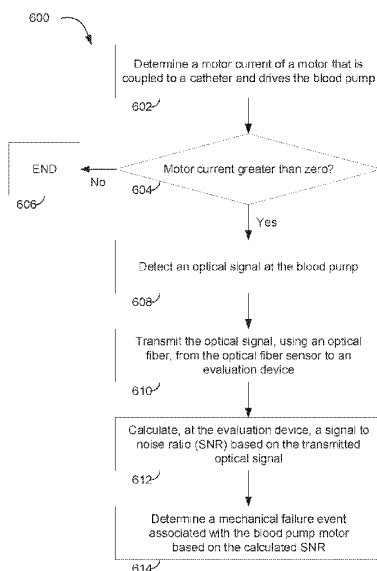


FIG. 6

(57) **Abstract:** A blood pump system including an optical sensor configured to detect an optical signal during pumping operation of the blood pump, and an optical fiber configured to transmit the optical signal from the optical fiber sensor to an evaluation device communicatively coupled to the optical fiber sensor. The evaluation device is configured to receive as inputs the transmitted optical signal and a signal indicative of the motor current and determine a mechanical failure event associated with the blood pump based on the motor current and the optical signal.

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