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

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 15 October 2020 (15.10.2020)

(51) International Patent Classification: *A61M* 1/00 (2006.01) *G01F* 1/32 (2006.01)

(21) International Application Number:

PCT/US2020/024465

(22) International Filing Date:

24 March 2020 (24.03.2020)

(25) Filing Language:

English

(26) **Publication Language:**

English

(30) Priority Data:

16/381,809

11 April 2019 (11.04.2019)

*** **

- (71) Applicant: COVIDIEN LP [US/US]; 15 Hampshire Street, Mansfield, Massachusetts 02048 (US).
- (72) Inventors: SKUJINS, Peter; 15 Hampshire Street, Manssfield, Massachusetts 02048 (US). MINTZ, Eric; 15 Hampshire Street, Mansfield, Massachusetts 02048 (US). JALGAONKAR, Ujwal; 15 Hampshire Street, Mansfield, Massachusetts 02048 (US).
- (74) Agent: STEINBRONN, Joseph R.; Shumaker & Sieffert P.A., 1625 Radio Drive, Suite 100, Woodbury, Minnesota 55 125 (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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, Cl, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: ASPIRATION FLOW SENSOR

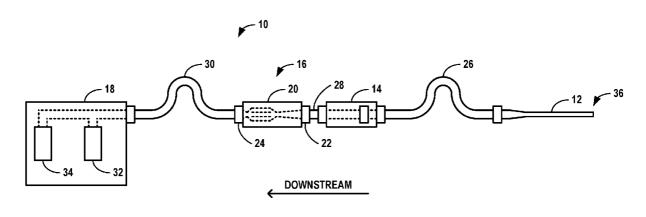


FIG. 1

(57) Abstract: In some examples, an aspiration system a catheter and a fluid flow sensor. The fluid flow sensor includes a fluid inlet, a fluid outlet, and a flow oscillator. The fluid inlet is configured to receive fluid from the catheter. The flow oscillator configured to oscillate flow of the fluid through the fluid flow sensor to generate flow-induced vibrations. The fluid outlet is configured to discharge the fluid.