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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
09 August 2018 (09.08.2018)

WIPO | PCT

(10) International Publication Number
WO 2018/144391 A1

(51) International Patent Classification:
A61M 5/148 (2006.01) *A61M 5/142* (2006.01)
A61J 1/10 (2006.01) *A61M 5/145* (2006.01)
A61M 5/14 (2006.01)

(21) International Application Number:
PCT/US2018/015777

(22) International Filing Date:
29 January 2018 (29.01.2018)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/452,783 31 January 2017 (31.01.2017) US

(71) Applicant: **ALPHINITY, LLC** [US/US]; 1771 S. Sutro Terrace, Carson City, Nevada 89706 (US).

(72) Inventor: **GAGNE, Michael C.**; 1771 S. Sutro Terrace, Carson City, Nevada 89706 (US).

(74) Agent: **DAVIDSON, Michael S.**; VISTA IP LAW GROUP LLP, 100 Spectrum Center Drive, Suite 900, Irvine, California 92618 (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:** BIOPROCESS VESSELS WITH INTEGRATED PUMP

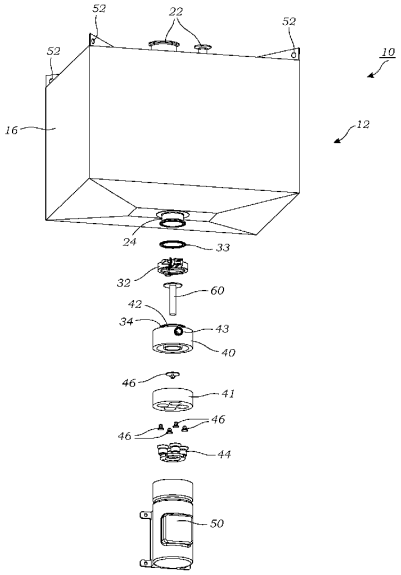


FIG. 2A

(57) **Abstract:** A bioprocess vessel includes a flexible bag or substantially rigid container that defines an interior volume and having a bottom surface, the bottom surface being open or containing an aperture therein for the passage of fluid. A pump is secured to the bottom surface of the flexible bag or substantially rigid container. In some embodiments is secured directly to the flexible bag or substantially rigid container. In other embodiments, the pump is secured indirectly the flexible bag or substantially rigid container using, for example, a port that extends through the aperture on the bottom surface. The port or flanged surface may also be integrated into the pump, which is secured to the vessel. An optional mixing adaptor may be provided inside the interior volume of the flexible bag or substantially rigid container and at least partially covers the inlet that leads to the pump.

WO 2018/144391 A1