

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 September 2024 (12.09.2024)



(10) International Publication Number
WO 2024/186813 A1

(51) International Patent Classification:

B63B 27/34 (2006.01) *F16L 11/20* (2006.01)
B63B 35/44 (2006.01) *F16L 11/22* (2006.01)
B67D 9/00 (2010.01) *B67D 7/04* (2010.01)
C25B 1/04 (2021.01) *B63B 22/24* (2006.01)
F03B 13/14 (2006.01)

(21) International Application Number:

PCT/US2024/018515

(22) International Filing Date:

05 March 2024 (05.03.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/450,914	08 March 2023 (08.03.2023)	US
18/594,655	04 March 2024 (04.03.2024)	US

(71) Applicant: **LONE GULL HOLDINGS, LTD.** [US/US];
5331 S. Macadam Ave., Suite 258, PMB 332, Portland, OR
97239 (US).

(72) Inventors: **SHELDON-COULSON, Garth Alexander**;
5331 S. Macadam Ave., Suite 258, PMB 332, Portland,
OR 97239 (US). **MOFFAT, Brian, Lee**; 5331 S. Macadam
Ave., Suite 258, PMB 332, Portland, OR 97239 (US).

(74) Agent: **BLANK, Eric S.** et al.; Schwabe, Williamson &
Wyatt, P.C., 1211 SW 5th Avenue, Suite 1900, Portland, OR
97204 (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, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,

(54) Title: METHODS AND SYSTEMS FOR REVERSIBLE COUPLING OF CONDUITS

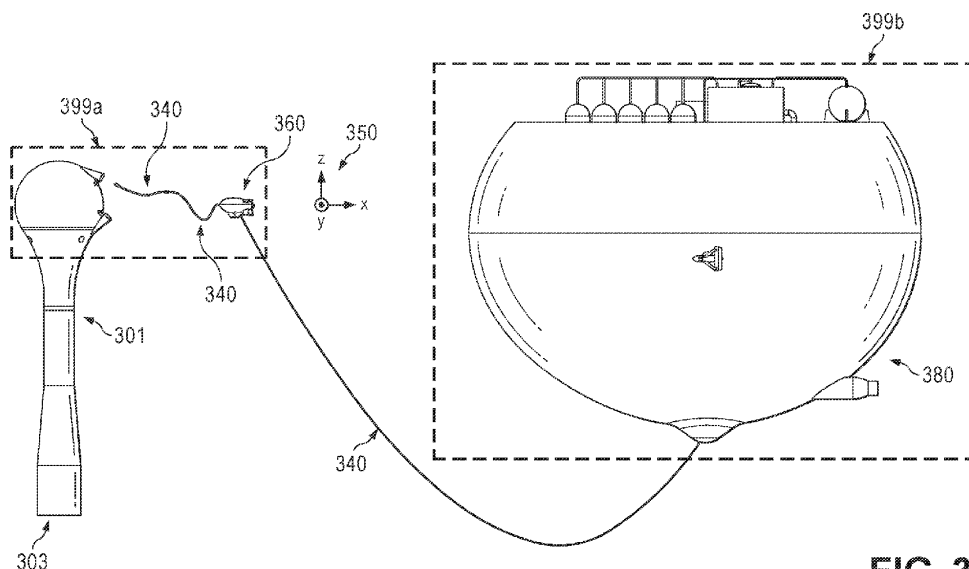


FIG. 3

(57) **Abstract:** Methods and systems are provided for transient fluidic coupling via reversibly couplable conduits. In one example, a method includes directing a conduit assembly to a receiving port by releasing one or more fluid streams from the conduit assembly. The method may further include fluidly coupling an internal passage of the conduit assembly to the receiving port. The internal passage may extend from the conduit assembly and along a conduit between a pair of free-floating bodies, such as between a wave engine and a tanker ship, so as to exchange one or more fluids, such as an electrolysis reactant and an electrolysis product. The fluidic coupling may be reversible, in that the conduit assembly may be detached from the receiving port to sever the fluidic coupling. In certain examples, the detaching may be actuated by releasing one or more additional fluid streams from the conduit assembly.

[Continued on next page]

WO 2024/186813 A1

KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, 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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*