



- (51) **International Patent Classification:**
B63B 13/00 (2006.01) *B63J 2/12* (2006.01)
- (21) **International Application Number:**
PCT/EP2020/056636
- (22) **International Filing Date:**
12 March 2020 (12.03.2020)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
19162215.8 12 March 2019 (12.03.2019) EP
- (71) **Applicant:** **SINGLE BUOY MOORINGS INC.**
[CH/CH]; Route de Fribourg 5, CH-1723 Marly (CH).
- (72) **Inventors:** **BIAN, Xiaoqiang**; 24 Avenue de Fontvieille, 98000 Bât. Aigue Marine (MC). **CAO, Peimin**; 24 Avenue de Fontvieille, 98000 Bât. Aigue Marine (MC). **XIANG, Chen**; 24 Avenue de Fontvieille, 98000 Bât. Aigue Marine (MC). **LI, Qing**; 24 Avenue de Fontvieille, 98000 Bât. Aigue Marine (MC).
- (74) **Agent:** **NEDERLANDSCH OCTROOIBUREAU**;
P.O.Box 29720, 2502 LS The Hague (NL).
- (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, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

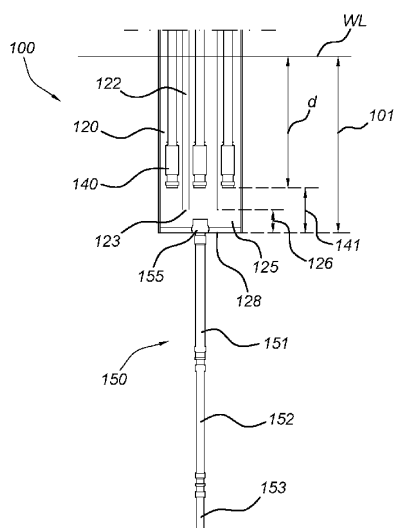
- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, 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, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

- (54) Title:** SEA WATER INTAKE RISER SYSTEM

Fig. 2



(57) Abstract: A sea water intake riser system (100; 100') for a floating production unit (1), comprising at least two caissons (120), wherein the height of each caisson is substantially equal to a vertical height (L) of a hull (5) of the floating production unit (1) and extends, when mounted to the hull (5) of the floating production unit, from a predetermined minimum distance (126) from the bottom side of the hull up to at least the water-line (WL) during use, each caisson (124) comprising an open top side and a through-opening in a bottom side (123); a lift pump (140) arranged inside each of the caissons (120) and having an inlet at a vertical distance (141) with a predetermined minimum submergence (d) and adapted for pumping cold water from the caisson (120) up to the floating production unit (1) for use as cooling medium by production equipment (10) of the floating production unit, and a sump tank (125), attached to the bottom side (123) of each of the caissons such that each through-opening thereof is in fluid communication with a volume inside the sump tank (125), the sump tank being located between the bottom side of the hull and the at least two caissons (120) when mounted and having a through-opening (155) in a bottom side (128) and being connectable to an upper end of a riser pipe (150).