



- (51) **International Patent Classification:**
B63B 27/36 (2006.01) *B63G 8/00* (2006.01)
- (21) **International Application Number:**
PCT/GB2012/052838
- (22) **International Filing Date:**
15 November 2012 (15.11.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
1119696.1 15 November 2011 (15.11.2011) GB
- (71) **Applicant:** SUBSEA 7 LIMITED [GB/GB]; Arnhall Business Park, Prospect Road, Westhill, Aberdeenshire AB32 6FE (GB).
- (72) **Inventors:** JAMIESON, James Andrew; 7 Lumsden Way, Balmedie, Aberdeenshire AB23 8TS (GB). GIBBONS, Graham; 11 Malvern Terrace, Perth PH1 1LY (GB). WILSON, Lee; 46e Union Glen, Aberdeen AB11 6ER (GB).

(74) **Agents:** CUMMINGS, Sean et al.; Fleet Place House, 2 Fleet Place, London EC4M 7ET (GB).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, 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, 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, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) **Title:** LAUNCH AND RECOVERY TECHNIQUES FOR SUBMERSIBLE VEHICLES AND OTHER PAYLOADS

(57) **Abstract:** A subsea payload such as an AUV or an AUV garage is lifted from an underwater location by flying a latch unit (38) through the water to the payload (22). The latch unit (38) carries a lift line (20) toward the payload (22). The latch unit (38) is then attached to the payload (22) and the payload (22) is lifted using tension applied through the lift line (20) via the latch unit (38). The latch unit (38) can also be used on a lift line to lower a payload and then to release the payload at an underwater location. The lift line (20) is supported by a heave - compensating winch (12) on a surface vessel that effects z-axis movement of the latch unit (38). The winch (12) maintains tension on the lift line (20) to prevent the lift line (20) falling on the payload. Movement of the latch unit (38) on x-and y-axes is effected by on-board thrusters (48).

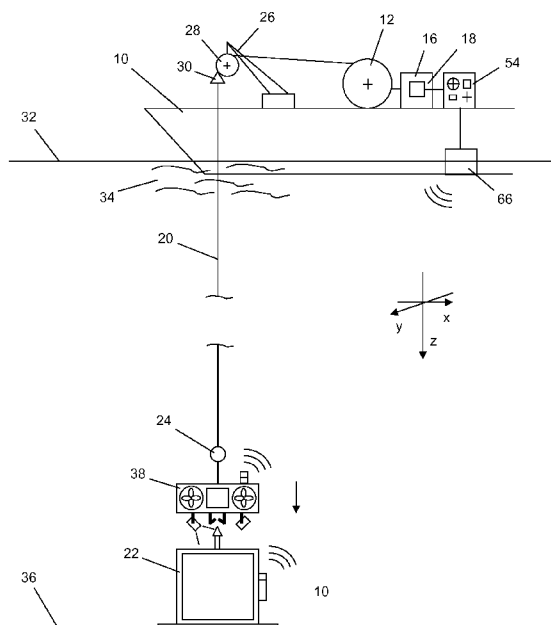


Figure 2



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))