

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 February 2024 (01.02.2024)



(10) International Publication Number
WO 2024/026105 A1

(51) International Patent Classification:
B63B 39/06 (2006.01) *B63B 79/10* (2020.01)
B63B 79/40 (2020.01)

(21) International Application Number:
PCT/US2023/029003

(22) International Filing Date:
28 July 2023 (28.07.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/393,483 29 July 2022 (29.07.2022) US

(71) Applicant: **SEAKEEPER, INC.** [US/US]; 45310 Abell
House Lane, Suite 350, California, Maryland 20619 (US).

(72) Inventors: **SEMPREVIVO, Andrew**; 1524 Dauphin Av-
enue, Wyomissing, Pennsylvania 19610 (US). **GAL-**

LAGHER, Michael; 1872 West 45th Street, Cleveland,
Ohio 44102 (US).

(74) Agent: **TURGEON, Michael J.**; Vedder Price P.C., 222 N.
LaSalle Street, Suite 2500, Chicago, Illinois 60601 (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,
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.

(54) Title: STABILITY CONTROL SYSTEM WITH SAFE BLADE DEPLOYMENT LIMIT

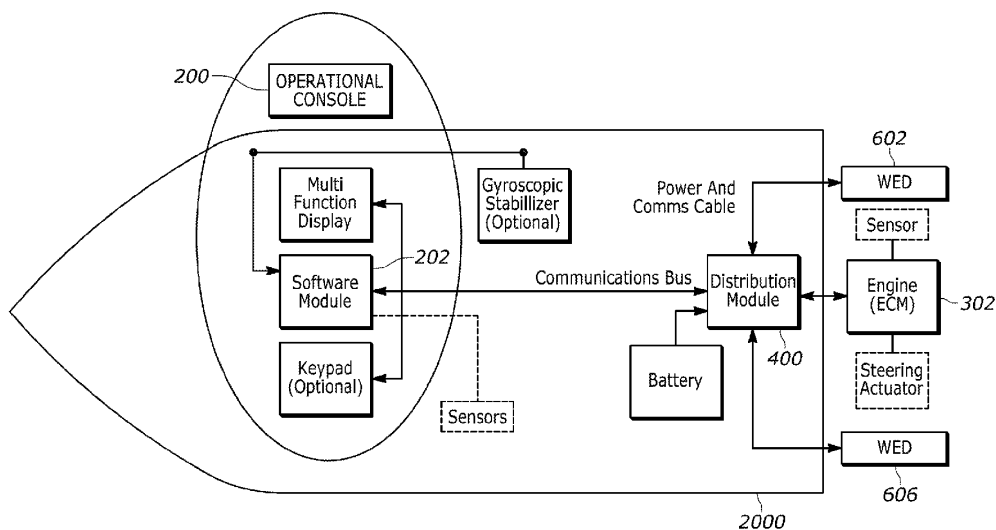


FIG. 1

(57) Abstract: A stability control system – a dynamic active control system configured for total vessel pitch axis control by fast symmetric deployment of water engagement devices, coupled with engine trim adjustments and total roll and heading control by differentially deploying water engagement devices to counter rolling motions associated with water engagement device delta position. The software module is further configured with a control strategy that limits the bias of the water engagement devices as the marine vessel accelerates or decelerates in order to provide improved stability during marine vessel operation. The control strategy can maintain the bias static within a certain limited configuration (e.g., related to the speed of the marine vessel) until the limited configuration is no longer present.

[Continued on next page]

(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))*