

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
09 April 2020 (09.04.2020)



(10) International Publication Number
WO 2020/071997 A1

(51) International Patent Classification:

G06F 3/033 (2006.01) A63F 13/24 (2014.01)
G06F 3/01 (2006.01) G05G 9/047 (2006.01)

(72) Inventor: GUERRERO, Gil Jr Palma; c/o Razer (Asia-Pacific) Pte. Ltd., 514 Chai Chee Lane, #07-05, Singapore 469029 (SG).

(21) International Application Number:

PCT/SG2018/050504

(74) Agent: VIERING, JENTSCHURA & PARTNER LLP; P.O. Box 1088, Rochor Post Office, Rochor Road, Singapore 911833 (SG).

(22) International Filing Date:

05 October 2018 (05.10.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant: RAZER (ASIA-PACIFIC) PTE. LTD.
[SG/SG]; 514 Chai Chee Lane #07-05, Singapore 469029 (SG).

(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,

(54) Title: JOYSTICK DEVICE AND A METHOD OF MANUFACTURING THEREOF

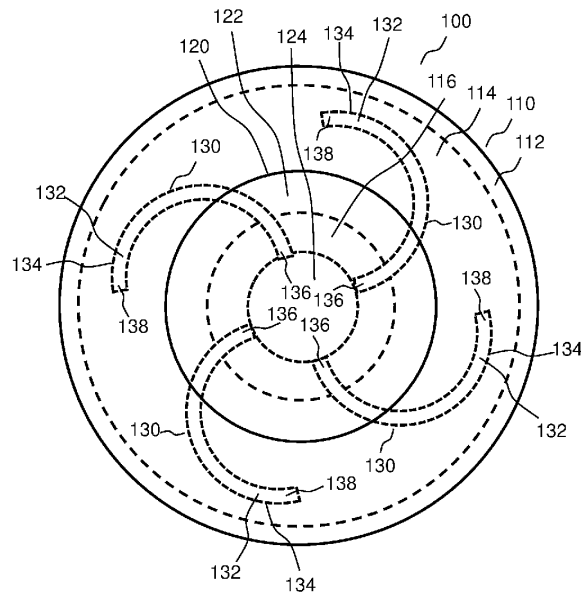


FIG. 1B

(57) Abstract: A joystick device including a hollow housing having an endless boundary structure and a ceiling structure with an opening; a control-stick having a head portion and a stem portion, the hollow housing surrounding the stem portion with the head portion outside the hollow housing; and a plurality of biasing curved arm members extending outwardly from the stem portion and movable with the control-stick as a whole relative to the hollow housing along a plane at least substantially perpendicular to the stem portion. Each of the plurality of biasing curved arm members having a curved segment with a convex side directed towards a respective corresponding portion of the endless boundary structure so as to bias the stem portion when the control-stick is being moved towards said portion. The plurality of biasing curved arm members being distributed around the stem portion so as to cooperate with each other to centre the control-stick.

[Continued on next page]



WO 2020/071997 A1

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*