

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
31 October 2024 (31.10.2024)



(10) International Publication Number
WO 2024/224048 A1

- (51) **International Patent Classification:**
E01F 9/685 (2016.01) *E01F 13/12* (2006.01)
- (21) **International Application Number:**
PCT/GB2024/051039
- (22) **International Filing Date:**
22 April 2024 (22.04.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
2306016.3 25 April 2023 (25.04.2023) GB
- (71) **Applicant: ATG ACCESS LTD** [GB/GB]; Cobaco House,
North Florida Road, Haydock Industrial Estate, Haydock
Merseyside WA11 9TP (GB).
- (72) **Inventor: BALL, Robert Nicholas**; C/O ATG Access Ltd,
Cobaco House, North Florida Road, Haydock Industrial Es-
tate, Haydock Merseyside WA11 9TP (GB).
- (74) **Agent: MARKS & CLERK LLP**; Alpha Tower, Suffolk
Street Queensway, Birmingham West Midlands B1 1TT
(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, 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.

(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))

(54) **Title:** BOLLARD

(57) **Abstract:** A bollard (100) comprises a post (110) having a peripheral wall (112) defining an internal volume (114), a socket (120) configured to receive and support the post, and a ballast material (140) disposed within the internal volume of the post. The post and/or socket comprise a formation (116, 125) extending into the internal volume of the post, wherein the formation is configured to exert a force (R1, R2) upon the ballast material (140) when the bollard receives an impact. The bollard may be supplied as a kit of parts.

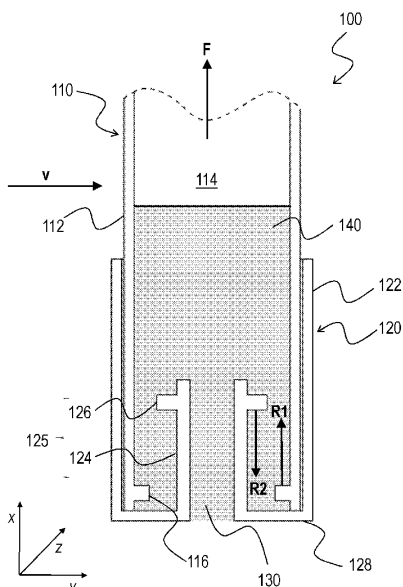


Figure 1

WO 2024/224048 A1