

(19) World Intellectual Property Organization
International Bureau

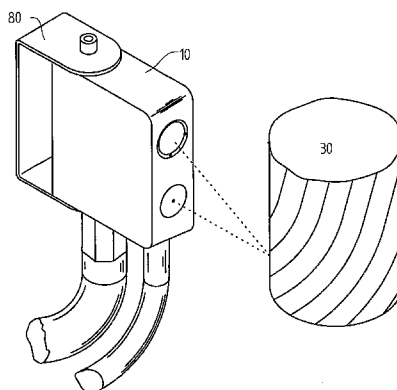


(43) International Publication Date
16 March 2006 (16.03.2006)

PCT

(10) International Publication Number
WO 2006/027577 A1

- (51) International Patent Classification⁷: **B23Q 17/09**, 17/24, B23B 49/00, G05B 19/4065
- (21) International Application Number: PCT/GB2005/003449
- (22) International Filing Date: 7 September 2005 (07.09.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0419943.6 8 September 2004 (08.09.2004) GB
0421853.3 1 October 2004 (01.10.2004) GB
0501182.0 21 January 2005 (21.01.2005) GB
- (71) Applicant (for all designated States except US): **RENISHAW plc** [GB/GB]; New Mills, Wotton-under-Edge, Gloucestershire GL12 8JR (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **STIMPSON, Victor, Gordon** [GB/GB]; Field House, Tetbury Hill, Avening, Gloucestershire GL8 8LT (GB). **BELL, Colin, Timothy** [GB/GB]; 16 Howmead, Berkeley, Gloucestershire GL13 9AS (GB). **DAVIES, William, Kenneth** [GB/GB]; 10 Squires Leaze, Thornbury, Bristol, South Gloucestershire BS35 1TB (GB). **MAXTED, Paul** [GB/GB]; 58 Champs Sur Marne, Bradley Stoke, Bristol, South Gloucestershire BS32 9BJ (GB).
- (54) Title: DETECTION DEVICE AND METHOD
- (74) Agents: **FOWLER, Maria, Jayne** et al.; Renishaw plc, Patent Department, New Mills, Wotton-under-Edge, Gloucestershire GL12 8JR (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**
— of inventorship (Rule 4.17(iv)) for US only
- Published:**
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(57) Abstract: A device and method for detecting the presence or absence of an object (30, 56) which has repetitive motion are disclosed comprising, a receiver (18, 118, 218) for receiving a signal from the object, and circuitry (20) for determining the presence or absence of the object to be detected, wherein the circuitry records the signal from the receiver as a pattern of data during at least part of the repetitive motion of the object, compares the data with a previously recorded data pattern and, produces an output signal (42) based on the comparison. The signal may be received during discrete time intervals, and may be light (52, 54) which can be transmitted with varying intensity. The circuitry may determine the value of signal received at a receiver and produce a binary value. The signal received at the receiver can be reflected from the object to be detected.

WO 2006/027577 A1