



(51) International Patent Classification:

H01H 35/14 (2006.01) *H01H 9/16* (2006.01)
H01H 36/00 (2006.01) *E06B 9/68* (2006.01)

(21) International Application Number:

PCT/EP2021/052118

(22) International Filing Date:

29 January 2021 (29.01.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10 2020 106 455.1

10 March 2020 (10.03.2020)

DE

(71) Applicant: **JOHNSON ELECTRIC GERMANY GMBH & CO. KG** [DE/DE]; Wilhelm-Liebkecht-Strasse 6, 01257 Dresden (DE).

(72) Inventors: **RITSCHEL, Sten**; c/o Johnson Electric Engineering Ltd., Patent Dept. 12 Science Park East Avenue, 6F, Hong Kong Science Park, Shatin, N.T., Hong Kong (CN).
GOLDBERG, Roman; c/o Johnson Electric Engineering Ltd., Patent Dept. 12 Science Park East Avenue, 6F, Hong Kong Science Park, Shatin, N.T., Hong Kong (CN).

(74) Agent: **DOHERTY, William** et al.; County House Bayshill Road, Cheltenham Gloucestershire GL50 3BA (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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, 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, 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, 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).

(54) Title: DEVICE WITH SWITCHING ARRANGEMENT AND OPERATING METHOD THEREOF

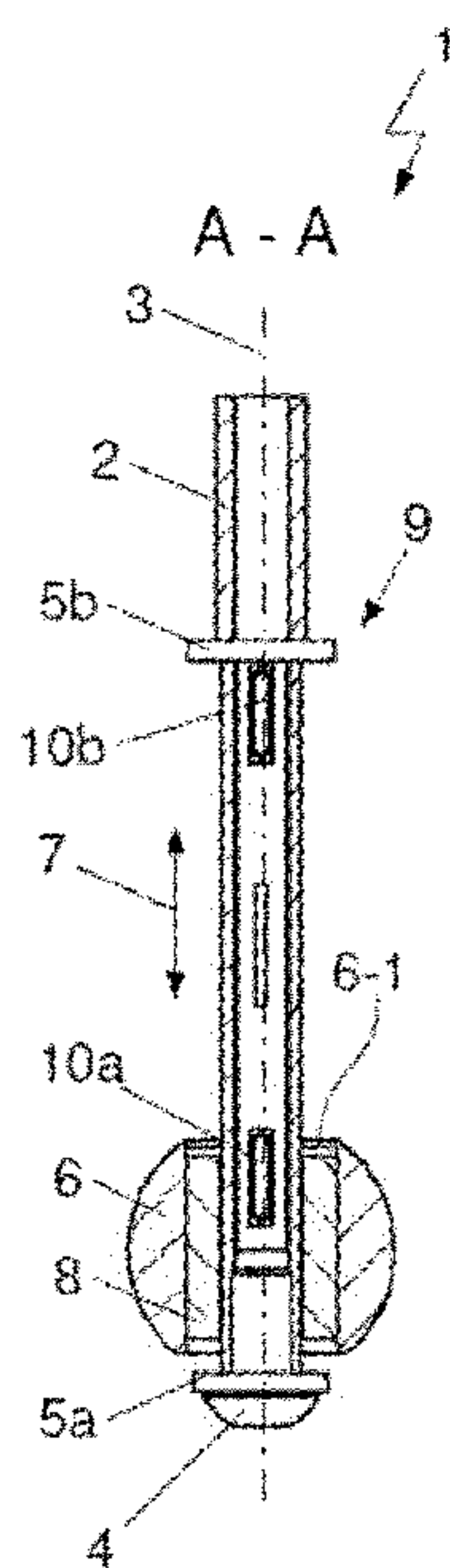


Fig. 1b

(57) Abstract: The present disclosure relates to a device (1) with a switching arrangement (9) for operating an electrical driving means, in particular an electric motor, for moving a shading device. The device (1) includes an operating element (2) in which the switching arrangement (9) is mounted. The switching arrangement (9) includes at least one magnet (8) and at least one switching element (10a, 10b) integrated into the operating element (2). The magnet (8) is movable along the operating element (2) in the direction of a longitudinal axis (3). The at least one switching element (10a, 10b) can be switched in a contactless manner via the magnetic field that is generated by the magnet (8). The present disclosure also relates to a method for operating the device according to the present disclosure.

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))*
- *upon request of the applicant, before the expiration of the time limit referred to in Article 21(2)(a)*

(88) Date of publication of the international search report:

10 June 2021 (10.06.2021)

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2021/052118

A. CLASSIFICATION OF SUBJECT MATTER

INV. H01H35/14 H01H36/00
 ADD. H01H9/16 E06B9/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01H E06B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 205 542 581 U (BAO BIHAI) 31 August 2016 (2016-08-31)	1-10,12, 14
Y	page 4, paragraph 0038 - page 6, paragraph 0056; figures 1,3	11,13

X	US 6 123 508 A (CHING ANGEL [US]) 26 September 2000 (2000-09-26)	1-8,12, 14
Y	column 2, line 10 - column 4, line 33;	11,13
A	figure 4	9,10

Y	US 4 924 703 A (WHITE JOHN J [US] ET AL) 15 May 1990 (1990-05-15)	11
A	column 2, line 20 - column 4, line 22; figures 1,2,5	1-10, 12-14

Y	US 2006/193129 A1 (OPOLKA RAINER [DE]) 31 August 2006 (2006-08-31)	13
A	page 1, paragraph 0016 - paragraph 0018; figure 2	1-12,14



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

15 April 2021

Date of mailing of the international search report

29/04/2021

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040,
 Fax: (+31-70) 340-3016

Authorized officer

Pavlov, Valeri

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2021/052118

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CN 205542581	U	31-08-2016	NONE
US 6123508	A	26-09-2000	NONE
US 4924703	A	15-05-1990	JP H02306124 A 19-12-1990 US 4924703 A 15-05-1990
US 2006193129	A1	31-08-2006	DE 202005003128 U1 04-05-2005 US 2006193129 A1 31-08-2006