



(51) International Patent Classification:

E05B 9/00 (2006.01) *G08B 13/06* (2006.01)
E05B 45/06 (2006.01) *E05B 17/20* (2006.01)
E05B 47/02 (2006.01) *G07C 9/00* (2020.01)
E05B 9/02 (2006.01) *E05B 47/00* (2006.01)

(21) International Application Number:

PCT/EP2020/057154

(22) International Filing Date:

16 March 2020 (16.03.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10 2019 107 282.4

21 March 2019 (21.03.2019) DE

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(54) Title: A DOOR LOCK ACTUATION DEVICE FOR OPERATING A DOOR LOCK AND AN ALARM INSTALLATION WITH SUCH DOOR LOCK ACTUATION DEVICE

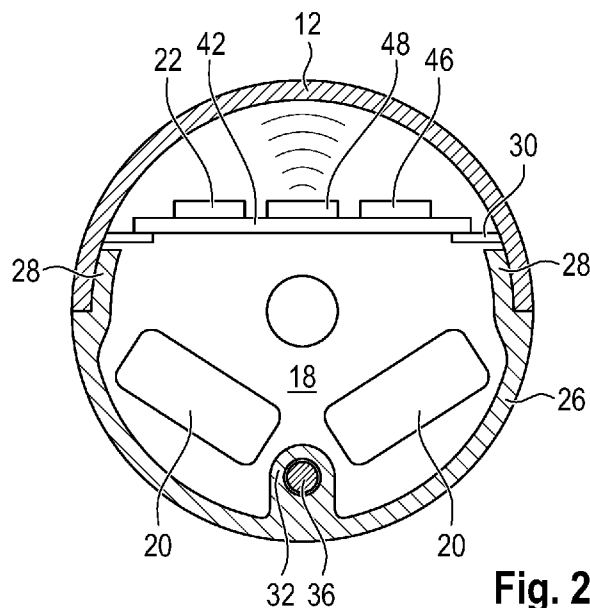


Fig. 2

(57) Abstract: The invention relates to a door lock actuation device (10) for operating a door lock, comprising a housing (12) having an interface side for being mounted on a door (1), an output element (16) adapted for cooperating with the door lock, a drive device (14) operatively connected to the output element (16), a control (22) for controlling operation of the drive device (14), a battery compartment (18) adapted for receiving at least one battery (20) which supplies the drive device (14) and the control (22), a battery cover (26) attached to the housing (12), the battery cover (26) being removable so as to allow access to the battery compartment (18), and a locking mechanism (32, 36) for locking the battery cover (26) to the housing (12), the locking mechanism (32, 36) being accessible only from the interface side of the housing (12). The invention also relates to an alarm installation comprising a central unit and a door lock actuation device (10) according to any of the preceding claims wherein the central unit is adapted for triggering an alarm if the accelerometer signals indicate that the door lock actuation device (10) is being tampered with.



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(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, 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).

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))

(88) **Date of publication of the international search report:**
22 October 2020 (22.10.2020)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/057154

A. CLASSIFICATION OF SUBJECT MATTER
 INV. E05B9/00 E05B45/06 E05B47/02 E05B9/02 G08B13/06
 E05B17/20 G07C9/00
 ADD. E05B47/00
 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)
 E05B

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 108 266 066 A (XIAMEN MAKE LOCKS MFT CO LTD) 10 July 2018 (2018-07-10)	1-4,7,8
A	figures 1,2	5,6
A	EP 2 551 427 A2 (SUDHAUS GMBH & CO KG [DE]) 30 January 2013 (2013-01-30) paragraph [0022]; figures 1-2	1-8
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X	US 2015/287254 A1 (RIBAS GABRIEL BESTARD [US] ET AL) 8 October 2015 (2015-10-08) the whole document	1,9-15
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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	Date of mailing of the international search report
7 September 2020	15/09/2020

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 Robelin, Fabrice
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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/057154

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2014/154738 A1 (MICROHARD SRL [IT]) 2 October 2014 (2014-10-02) the whole document	1,9-15

X	WO 2013/177443 A1 (INGERSOLL RAND CO) 28 November 2013 (2013-11-28) the whole document	1,9-15

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A	the whole document	15

X	US 2016/047145 A1 (JOHNSON JASON [US] ET AL) 18 February 2016 (2016-02-18)	1,9-14
A	the whole document	15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2020/057154

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8

Door lock actuation device for operating a door lock comprising a housing, an output element, a drive device, a control for control operation of the drive device, a battery compartment, a battery, a battery cover attached to the housing and a locking mechanism for locking the battery cover to the housing, the locking mechanism being accessible only from the interface side of the housing.

2. claims: 9-15

Smart lock adapted to be mounted on a door, comprising a battery, an accelerometer, an RF module, a housing arranged to prevent access to the battery, a RF tamper alert signal being provided if the smart lock is removed from the door.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2020/057154

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