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(54) Title: KEYCAM ASSEMBLY

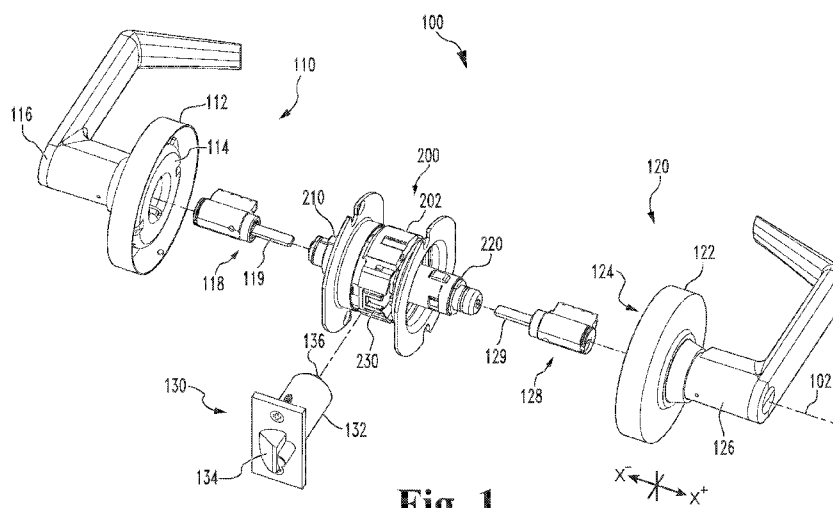


Fig. 1

(57) Abstract: A key cam assembly including a rotatable member, a stem, a locking member coupled to the stem for joint longitudinal movement therewith, and a cam driver. The rotatable member includes an aperture. A proximal end portion of the stem is rotatably seated in the rotatable member and defines a cam track. The locking member extends between the aperture and the cam track. The cam track includes a first passage including a locking pocket, a second passage including an unlocking pocket, a first ramped passage including a locking ramp extending from the second passage to the locking pocket, and a second ramped passage including an unlocking ramp extending from the first passage to the unlocking pocket. Relative rotation of the rotatable member and the stem causes the cam driver to travel along the track to thereby cause movement of the locking member between a locking position and an unlocking position.





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.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 20/17251

A. CLASSIFICATION OF SUBJECT MATTER

IPC - E05B 13/10, E05B 17/20, E05B 55/06, E05C 1/16 (2020.01)

CPC - E05B 55/005, E05B 13/101, E05B 17/047, E05B 13/10, E05B 17/20, E05B 55/06, E05C 1/16, E05B 13/108, E05B 63/0069, E05C 1/163

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)

See Search History document

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

See Search History document

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

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2017/0342740 A1 (Schlage Lock Company LLC) 30 November 2017 (30.11.2017) Entire document especially para [0028], [0038], [0046]-[0047] and figs. 1-6	1-3, 11-13
A	US 2013/0239631 A1 (Moon et al.) 19 September 2013 (19.09.2013) Entire document especially para [0033], [0056], [0062], [0074] and figs. 6, 18 and 22	1-3, 11-13
A	US 6,189,351 B1 (Eagan et al.) 20 February 2001 (20.02.2001) Entire document	1-3, 11-13
A	US 5,794,472 A (Kester et al.) 18 August 1998 (18.08.1998) Entire document	1-3, 11-13
A	US 5,441,318 A (Ghostley) 15 August 1995 (15.08.1995) Entire document	1-3, 11-13
A	US 2018/0187451 A1 (TNBT Holdings PTY LTD) 5 July 2018 (05.07.2018) Entire document	1-3, 11-13
A	US 6,705,138 B1 (Shen) 16 March 2004 (16.03.2004) Entire document	1-3, 11-13
A	US 2018/0058117 A1 (Hampton Products International Corporation) 1 March 2018 (01.03.2018) Entire document	1-3, 11-13
A	US 2015/0013402 A1 (Schlage Lock Company LLC) 15 January 2015 (15.01.2015) Entire document	1-3, 11-13

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 20/17251

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.: 4-10, 14-20
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:

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 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.