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(71) Applicant (for all designated States except US):
SCHLAGE LOCK COMPANY [US/US]; 11819 N.
Pennsylvania Street, Carmel, IN 46032 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MATHACHAN, Sajil, John** [IN/IN]; Lavanya, Yallakkishettar Colony, Vidyagiri, Dharwad, Karnataka 580004 (IN).

(74) Agent: **MASSINA, Glenn, M.**; Ratnerprestia, P.o. Box 980, Valley Forge, PA 19482 (US).

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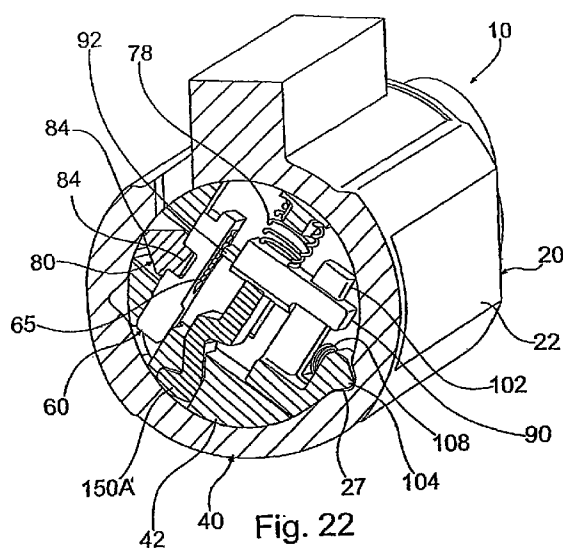
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30 April 2009

(54) Title: PROGRAMMABLE LOCK CYLINDER ASSEMBLY



(57) **Abstract:** A programmable lock cylinder assembly comprising a lock housing and a cylinder plug mounted for rotation within the housing. A set of rack pins are positioned in the cylinder plug and moveable between a locked position and an unlocked position. A set of tongue pins are positioned in the cylinder plug and extend across the keyway. Each tongue pin is selectively engagable with a respective rack pin. A re-combining member is engaged with the tongue pins and moveable between a first position wherein the tongue pins are engaged with the rack pins and a second position wherein the tongue pins are disengaged from the rack pins. A reset actuator is positioned within the cylinder plug and moveable between an engaged position wherein the re-combining member position is locked relative to the cylinder plug and a non-engaged position wherein the re-combining member position is moveable relative to the cylinder plug.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/007392

A. CLASSIFICATION OF SUBJECT MATTER
INV. E05B27/00

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 226 252 A (RIELDA SERRATURE SRL [IT]) 24 June 1987 (1987-06-24) column 8, line 39 - line 53 column 9, line 20 - line 40 figures 1-8	1-4
A	EP 1 752 601 A (GIUSSANI TECH S P A [IT]) 14 February 2007 (2007-02-14) column 5, line 14 - column 6, line 22 figures 1-7	1-5, 13-15,21
A	WO 2006/010080 A (NEWFREY LLC [US]; STRADER WALTER [US]; ARMSTRONG STEVEN [US]; CHONG GE) 26 January 2006 (2006-01-26) page 8, line 10 - line 26 figures 17-20	1

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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 document 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
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- *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
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- *G* document member of the same patent family

Date of the actual completion of the international search

7 November 2008

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12/03/2009

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

Bitton, Alexandre

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/007392

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 999 413 A (RAYMOND JAMES W ET AL) 28 December 1976 (1976-12-28) column 3, line 40 - line 49 column 4, line 31 - line 41 figures 2,6-8	1,2, 13-15
A	WO 98/40589 A (RIELDA SRL [IT]) 17 September 1998 (1998-09-17) the whole document	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/007392

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 allsearchable 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 reportcovers 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.:

1-15, 21-23

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: 1-15,21-23

Lock cylinder with changeable combination

2. claims: 16-19,20

Lock cylinder with side bar, which can be actuated by two different keys

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/007392

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