



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

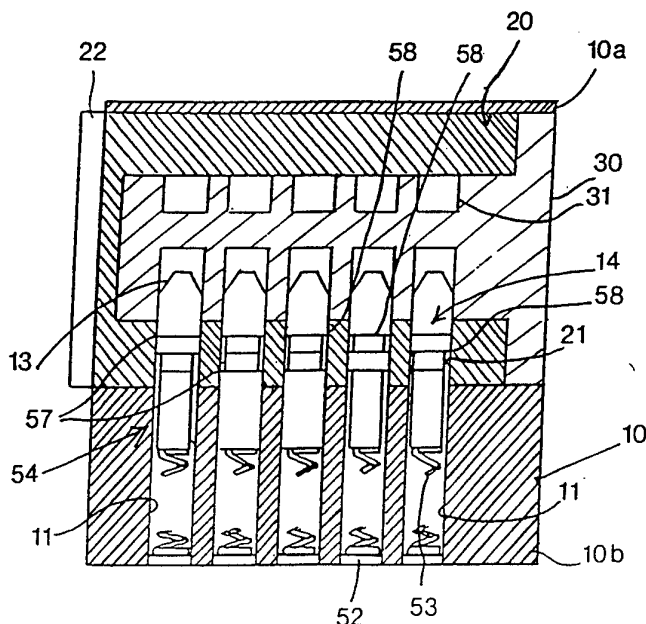
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9204942.8 6 March 1992 (06.03.92) GB(71)(72) Applicant and Inventor: NETTLEFOLD, Jonathan
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Worcs. WV10 2LY (GB).(81) Designated States: AT, AU, BB, BG, BR, CA, CH, CZ,
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MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK,
UA, US, European patent (AT, BE, CH, DE, DK, ES,
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(54) Title: CYLINDER LOCK



(57) Abstract

A cylinder lock is provided with an outer rotor (20) which is rotatable when a plurality of tumbler assemblies (54) are in their correct positions, to rotate a throw bar (22) which unlocks a door or other member which is secured by the lock. If the lock is forced, for example by rotation of an incorrect key, an inner rotor (30) simply rotates harmlessly within the stationary outer rotor (20). The operating pins (13) of the tumbler pin assemblies (54) are not harmed, because they are received within circumferential grooves (31) in the inner rotor (30). The preferred embodiment also incorporates an antipick mechanism, whereby if one of the tumbler assemblies (54) is picked at a false or secondary breakpoint (58), on rotation of the outer rotor (20) that assembly is forced by a biasing spring (53) into a secondary bore (23), so disabling the lock. If the tumbler assembly (54) is split at a true or primary point (57), however, the greater cross-sectional area of the tumbler pin at this point ensures that as the outer rotor (20) rotates, the pin is too large to snap into the bore (23), thereby allowing the rotor to be rotated to its unlocked position.

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INTERNATIONAL SEARCH REPORT

International Application No

PC1/GB 93/00433

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 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)
IPC 5 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US,A,1 417 132 (BARKER) 23 May 1922 see the whole document ---	1,3,12
A	GB,A,2 222 201 (BAUER KABA AG) 28 February 1990 cited in the application see the whole document ---	1-3,12, 30
A	US,A,5 060 494 (MOORHOUSE) 29 October 1991 see the whole document ---	1-3,12
A	DE,B,11 11 056 (BLANCHE) 18 July 1959 ---	1-3,5,12
A	US,A,1 785 634 (LAWRENCE) 16 December 1930 ---	1-3,5, 12,30
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *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

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& document member of the same patent family

Date of the actual completion of the international search

10 January 1994

Date of mailing of the international search report

11-02-1994

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US,A,2 596 720 (PASTOR ET AL) 13 May 1952 see the whole document ---	15-18, 20-23
X	US,A,3 349 588 (HINES) 31 October 1967 see the whole document ---	15,18, 20,24,26
A	US,A,4 380 163 (REDER) 19 April 1983 see column 3, line 39 - line 43; figures 1,2 ---	15,19
A	US,A,3 943 739 (GENAKIS) 16 March 1976 see column 2, line 27 - line 57; figures 10,11 ---	15,25
A	DE,A,20 38 039 (JOSEF VOSS KG) 10 February 1972 see page 7, paragraph 2; figures 4-6 ---	15,27,28
A	EP,A,0 451 779 (AUG. WINKHAUS GMBH & CO. KG) 16 October 1991 see figure 3 ---	15,29
A	GB,A,112 761 (EPSTEIN) 14 February 1918 see the whole document -----	15,19

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB93/00433

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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:
claim 31 : rule 6.2 (a) PCT
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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

CLAIMS 1-14,30 & CLAIMS 15-29
See PCT/ISA 216 mailed on 27/08/93

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 fee, this Authority did not invite payment of any additional fee.
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.☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 93/00433

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-1417132		NONE	
GB-A-2222201	28-02-90	CH-A- 676618 DE-A- 3920939 FR-A- 2637644	15-02-91 01-03-90 13-04-90
US-A-5060494	29-10-91	NONE	
DE-B-1111056		NONE	
US-A-1785634		NONE	
US-A-2596720		NONE	
US-A-3349588		NONE	
US-A-4380163	19-04-83	NONE	
US-A-3943739	16-03-76	NONE	
DE-A-2038039	10-02-72	CH-A- 524749	30-06-72
EP-A-0451779	16-10-91	DE-U- 9004190	21-06-90
GB-A-112761		NONE	