



EP 2 423 412 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.01.2013 Bulletin 2013/03

(51) Int Cl.:
E05B 27/04 (2006.01) **E05B 27/10** (2006.01)
E05B 19/08 (2006.01)

(43) Date of publication A2:
29.02.2012 Bulletin 2012/09

(21) Application number: **11179433.5**

(22) Date of filing: **30.08.2011**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME

(30) Priority: **31.08.2010 DK 201000771**

(71) Applicant: **Hansen, Dan Ove
2800 Lyngby (DK)**

(72) Inventor: **Hansen, Dan Ove
2800 Lyngby (DK)**

(74) Representative: **ZBM Patents ApS
ZBM Patents
C4 Videncenter
Krkasvej 17
3400 Hillerød (DK)**

(54) **Lock and key blade**

(57) The present invention relates to a rotary lock cylinder comprising
a) a cylinder housing for hosting a cylinder core,
b) a cylinder core mounted in said cylinder housing and being able to rotate in said cylinder housing to provide a shear line between said cylinder core and said cylinder housing, wherein said cylinder core has two sets of pin channels, referred to as the third set of pin channels and the fourth set of pin channels,
c) a first set of locking pins guided in said third pin channels,
d) a second set of locking pins guided in said fourth pin channels,

e) a key channel extending in a longitudinal direction of said cylinder core for insertion of a key blade, which cooperates with said first set of locking pins and said second set of locking pins in said cylinder core,
f) a longitudinal side bar accommodated in an aperture in said cylinder core which side bar co-acts with said second set of locking pins so that positioning of said second set of locking pins with a correct shaped key blade allows said side bar to clear the shear line, characterized in that said first set of locking pins and said second set of locking pins are arranged in an acute angle.

EP 2 423 412 A3



EUROPEAN SEARCH REPORT

Application Number
EP 11 17 9433

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	AT 371 883 B (EVVA WERKE [AT]) 10 August 1983 (1983-08-10)	1-3,5-13	INV. E05B27/04
Y	* the whole document *	4,14	E05B27/10 E05B19/08
X	GB 2 055 948 A (GKN STENMAN AB) 11 March 1981 (1981-03-11)	1-3,5-10	
Y	* the whole document *	4,14	
X	US 5 475 998 A (RASKEVICIUS LEO [US] ET AL) 19 December 1995 (1995-12-19) * column 5, line 15 - line 18; figures 3-5 *	15	
X	DE 299 22 815 U1 (EVVA WERKE [AT]) 24 February 2000 (2000-02-24) * page 6, line 2 - line 3; figures 7-9 *	15	
X	US 2 003 086 A (LISS SAMUEL A) 28 May 1935 (1935-05-28) * figures 3, 4 *	15	
Y	WO 97/36072 A1 (AUSTRALIAN LOCK CO [AU]; ETCHELLS GARRY MICHAEL [AU]; PREDDEY BRIAN FR) 2 October 1997 (1997-10-02) * page 4, line 27 - line 29; figure 1 *	4	TECHNICAL FIELDS SEARCHED (IPC)
Y	US 2003/136164 A1 (WIDEN JOHAN [SE] ET AL) 24 July 2003 (2003-07-24) * paragraph [0025]; figure 1 *	4	E05B
The present search report has been drawn up for all claims			
3	Place of search The Hague	Date of completion of the search 7 December 2012	Examiner Westin, Kenneth
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 11 17 9433

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

07-12-2012

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
AT 371883	B	10-08-1983		NONE		
GB 2055948	A	11-03-1981		AT 369095 B 10-12-1982 AU 536425 B2 10-05-1984 BE 884253 A1 12-01-1981 BR 8004211 A 21-01-1981 CA 1158881 A1 20-12-1983 CH 647837 A5 15-02-1985 DE 3024929 A1 29-01-1981 DE 8017686 U1 13-09-1984 DK 296480 A 11-01-1981 ES 8106782 A1 16-11-1981 FI 802177 A 11-01-1981 FR 2461079 A1 30-01-1981 GB 2055948 A 11-03-1981 IE 49638 B1 13-11-1985 IT 1131947 B 25-06-1986 JP 1625456 C 18-11-1991 JP 2052070 B 09-11-1990 JP 56016778 A 18-02-1981 LU 82606 A1 24-10-1980 MX 150783 A 16-07-1984 NL 8003896 A 13-01-1981 NO 801925 A 12-01-1981 NZ 194243 A 24-08-1984 PT 71507 A 01-08-1980 SE 422480 B 08-03-1982 SE 7906022 A 11-01-1981 US 4393673 A 19-07-1983 ZA 8004085 A 26-08-1981		
US 5475998	A	19-12-1995		CA 2191217 A1 07-12-1995 US 5475998 A 19-12-1995 WO 9533116 A1 07-12-1995		
DE 29922815	U1	24-02-2000		AT 394566 T 15-05-2008 AT 409019 B 27-05-2002 CH 693572 A5 15-10-2003 CZ 9904706 A3 13-06-2001 DE 29922815 U1 24-02-2000 DK 1055788 T3 01-09-2008 EP 1055788 A1 29-11-2000 ES 2306639 T3 16-11-2008 FR 2794159 A3 01-12-2000 GB 2350398 A 29-11-2000 HK 1030646 A1 27-02-2004		

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 11 17 9433

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

07-12-2012

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
		HR	P200000060 A2	31-12-2000
		HU	9904700 A2	28-05-2001
		NL	1014019 C1	28-11-2000
		NO	996370 A	27-11-2000
		PT	1055788 E	19-08-2008
		SI	1055788 T1	31-10-2008
		SK	188599 A3	12-02-2001
		TR	200001509 A2	21-12-2000
		US	6427506 B1	06-08-2002

US 2003086	A	28-05-1935	NONE	

WO 9736072	A1	02-10-1997	AT 218664 T CA 2249988 A1 DE 69713087 D1 DE 69713087 T2 EP 0892879 A1 ID 16307 A JP 3529795 B2 JP 2000507321 A MY 119994 A NZ 332149 A US 6076386 A WO 9736072 A1 ZA 9702558 A	15-06-2002 02-10-1997 11-07-2002 12-12-2002 27-01-1999 18-09-1997 24-05-2004 13-06-2000 30-08-2005 23-12-1998 20-06-2000 02-10-1997 20-11-1997

US 2003136164	A1	24-07-2003	NONE	
