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A. CLASSIFICATION OF SUBJECT MATTER**F02K 1/82(2006.01)i, F02K 1/80(2006.01)i, F02C 7/00(2006.01)i, F01D 25/30(2006.01)i**

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)

F02K 1/82; B64C 29/00; F02C 7/20; F16J 15/34; F02C 7/00; F02K 3/10; F02K 1/00; F02K 1/80; F01D 25/30

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: engine, liner segment, exhaust, seal and swivel joint

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2011-0232262 A1 (BARRY, JR. et al.) 29 September 2011 See abstract; paragraphs [0017], [0019], [0022]-[0025], [0027], [0028]; figures 2-4.	1-20
A	US 2004-0017045 A1 (CROSS et al.) 29 January 2004 See abstract; paragraphs [0040]-[0049]; figures 1-12.	1-20
A	US 2006-0179816 A1 (MURPHY et al.) 17 August 2006 See abstract; paragraphs [0016]-[0022]; figures 1-4.	1-20
A	US 2008-0016871 A1 (LAVIN et al.) 24 January 2008 See abstract; paragraphs [0018]-[0027]; figures 1-3, 3A, 4-6.	1-20
A	US 5,584,173 A (LYBARGER, MICHAEL A.) 17 December 1996 See abstract; column 4, lines 25-38, 48-67, column 5, lines 1-12; figures 1-3.	1-20

 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

06 December 2013 (06.12.2013)

Date of mailing of the international search report

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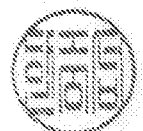
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2013/029473

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011-0232262 A1	29/09/2011	EP 2372212 A1 EP 2372212 B1	05/10/2011 31/07/2013
US 2004-0017045 A1	29/01/2004	GB 0302822 D0 GB 2385643 A GB 2385643 B US 7163206 B2	12/03/2003 27/08/2003 18/05/2005 16/01/2007
US 2006-0179816 A1	17/08/2006	EP 1691064 A2 EP 1691064 A3 JP 2006-226283 A US 7739872 B2	16/08/2006 24/03/2010 31/08/2006 22/06/2010
US 2008-0016871 A1	24/01/2008	EP 1882822 A2 EP 1882822 A3 JP 2008-025563 A US 2012-207584 A1 US 8201413 B2	30/01/2008 23/02/2011 07/02/2008 16/08/2012 19/06/2012
US 5584173 A	17/12/1996	AU 1994-98594 A AU 668275 B2 DE 69415854 D1 DE 69415854 T2 EP 0623742 A1 EP 0623742 B1 ES 2126708 T3 IL 109085 A JP 02544087 B2 JP 06-346758 A KR 10-1997-0005490 B1 US 6146617 A	06/10/1994 26/04/1996 25/02/1999 05/08/1999 09/11/1994 13/01/1999 01/04/1999 14/08/1997 16/10/1996 20/12/1994 16/04/1997 14/11/2000