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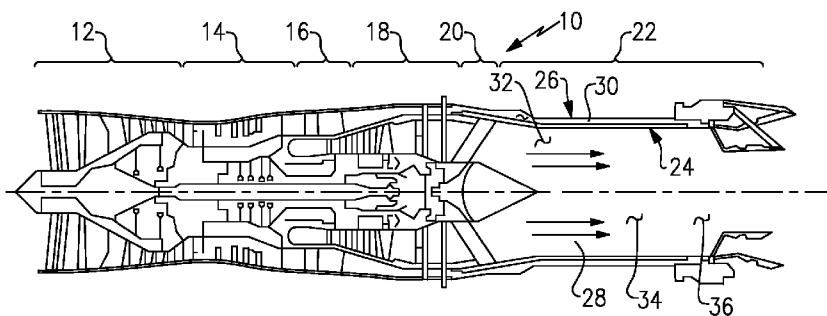
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(54) Title: LINER HANGER WITH SPHERICAL WASHERS



(57) Abstract: A liner assembly for a gas turbine engine includes a liner defining an inner surface exposed to exhaust gases and a duct spaced radially outward of the liner. A hanger assembly supports the liner relative to the duct. The hanger assembly includes a body segment attached to the liner and first and second washers defining a gap therebetween that receives a portion of the body segment. The gap between the washers and the body segment provides for relative movement caused by differences in thermal growth within the liner. An attachment member extending between the body section and the duct includes spherical ends that are seated on the first and second washers to accommodate misalignments during assembly.



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2013/042801**A. CLASSIFICATION OF SUBJECT MATTER****F02K 1/82(2006.01)i, F01D 11/00(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; F02C 7/20; F01D 25/28; F02C 7/24; F02K 3/10; B05B 12/00; F02K 3/02; F01D 11/00Documentation 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 modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
eKOMPASS(KIPO internal) & keywords: turbine, exhaust, duct, liner, hanger, mount, bracket, holder, washer, plug**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0293498 A1 (PETTY et al.) 3 December 2009 See paragraphs [0021]-[0030]; figures 3-7.	1-18
A	US 2009-0077978 A1 (FIGUEROA et al.) 26 March 2009 See paragraphs [0016]-[0018]; figures 3-5.	1-18
A	US 2009-0230213 A1 (HARRIS, ANDREW H.) 17 September 2009 See paragraphs [0027]-[0029]; figures 2-4.	1-18
A	US 2010-0115965 A1 (FARAH et al.) 13 May 2010 See paragraphs [0020]-[0025]; figures 3,4.	1-18
A	US 5,417,056 A (JOHNSON et al.) 23 May 1995 See column 4, line 44 -column 5, line 18; figures 2,3.	1-18

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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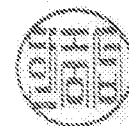
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0293498 A1	03/12/2009	US 8418473 B2	16/04/2013
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