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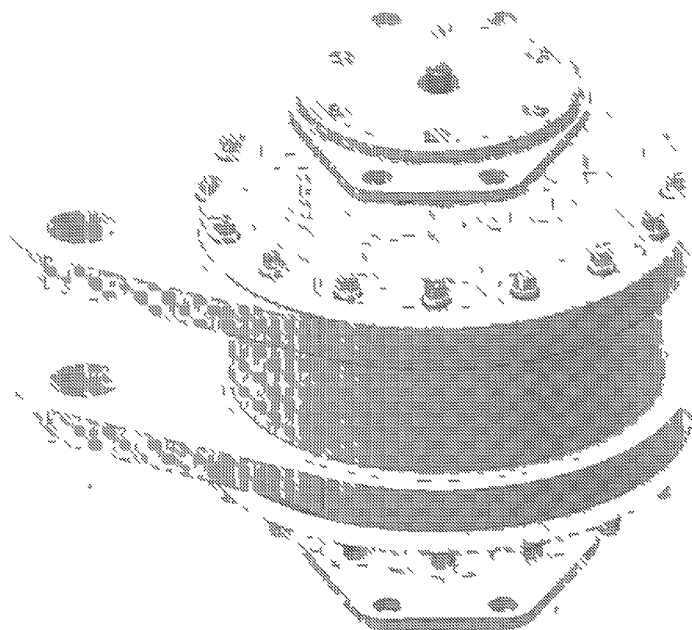
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[Continued on next page]

(54) **Title:** ROTARY WING AIRCRAFT ROTARY LEAD LAG DAMPER



(57) **Abstract:** The invention provides a rotary damper (20) for controlling helicopter motions. The rotary damper includes an outer canister (22) with an inner paddle wheel receiving cavity (26) which receives an inner paddle wheel (60) with upper and lower elastomeric tubular intermediate members (78,80) between the inner paddle wheel and the outer canister. The canister and inner paddle wheel form neighboring variable volume chambers (82,84) in liquid communication through liquid damping conduits. A clockwise rotation of the inner paddle wheel about the center of rotation axis (28) relative to the outer canister pumps damper liquid from a second variable volume chamber through a first liquid conduit towards a first variable volume chamber, and a counterclockwise rotation of the paddle wheel relative to the outer canister pumps the damper liquid from the first variable volume chamber through the first liquid conduit towards the second variable volume chamber with the elastomeric tubular intermediate members providing for the relative rotation and containing the damper liquid in the damper.

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# INTERNATIONAL SEARCH REPORT

International application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. **B64C27/00** **B64C27/51**

According to International Patent Classification (IPC) or to both national classification and IPC

**B HELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
**B64C F16F**

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
<b>X</b>	<p><b>EP 0 478 444 A (AEROSPATIALE [FR])</b>  <b>1 April 1992 (1992-04-01)</b>                      column 1, lines 1-12                      column 2, line 57 - column 3, line 19                      column 4, line 26 - column 5, line 8                      column 6, line 53 - column 8, line 32                      column 12, line 47 - column 13, line 46                      column 14, lines 1-18                      column 16, line 24 - column 17, line 24                      column 18, lines 4-39                      column 21, line 1 - column 23, line 37                      figures 1-4, 7-10</p> <p style="text-align: center;">----- -/--</p>	1-51

Further documents are listed in the continuation of Box C

See patent family annex

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| <p>* Special categories of cited documents</p> <p>'A*' document defining the general state of the art which is not considered to be of particular relevance</p> <p>'E' earlier document but published on or after the international filing date</p> <p>'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)</p> <p>'O' document referring to an oral disclosure, use, exhibition or other means</p> <p>'P' document published prior to the international filing date but later than the priority date claimed</p> | <p>'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</p> <p>'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</p> <p>"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</p> <p>1&amp;1 document member of the same patent family</p> |
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Date of the actual completion of the international search  <b>14 November 2007</b>	Date of mailing of the international search report  <b>22/11/2007</b>
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Name and mailing address of the ISA/ European Patent Office, P B 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel (+31-70) 340-2040 Tx 3 1 651 epo nl Fax (+31-70) 340-3016	Authorized officer  <p style="text-align: center;"><b>FERNANDEZ PLAZA, P</b></p>
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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.
A	<p>EP 1 457 704 A (ISHIKAWA TEKKO KK [JP]) 15 September 2004 (2004-09-15)</p> <p>page 3, lines 42-45 paragraphs [0028] - [0033] paragraph [0106] figures 1,3,7,26</p> <p style="text-align: center;">-----</p>	<p>1,10,19, 22-26, 34,43, 48,50 .</p>

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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