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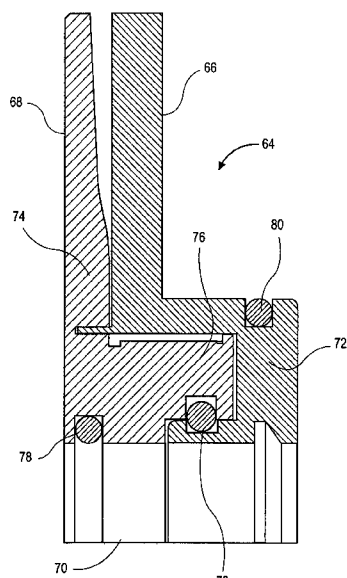
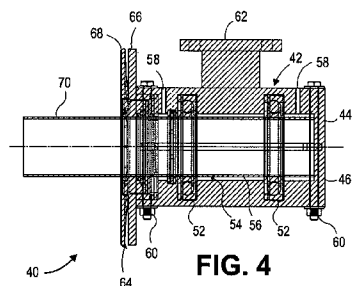
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(54) Title: PRESSURIZED BEARING ASSEMBLY



(57) Abstract: A pressurized bearing assembly (10,40) includes a pressurized housing (42) having a bearing seal that protects bearings that are provided within the housing. The bearing seal (64) may include a stator (66), a rotor (68), and a pressure bleed. The rotor may be provided with one or more fins (74). The housing may be pressurized with air and/or a lubricant. The housing may also include two or more portions separated by a housing seal. The housing may include a chamber (54) for maintaining the air or lubricant. The lubricant may circulate through the housing via a closed-loop lubrication system. The housing may also be provided with an anti-wetting compound. The housing, stator, and rotor may be made from temperature and corrosion. resistant material.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
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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) F16C F16J		
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.
X	US 3 020 057 A (GAMET LOUIS J-M) 6 February 1962 (1962-02-06)	1-4,8, 10-13, 15-19
A	column 4, line 71 - column 5, line 38; figures	14
X	US 4 471 964 A (KOTZUR JOACHIM [DE]) 18 September 1984 (1984-09-18) column 4, line 11 - column 5, line 23	1-5,8, 10-14
A	US 6 554 904 B1 (GIMPEL MATTHIAS [DE] ET AL) 29 April 2003 (2003-04-29) column 4, line 40 - column 5, line 62; figures	1-6,8, 10-16,18
A	GB 2 123 498 A (SKF SVENSKA KULLAGERFAB AB) 1 February 1984 (1984-02-01) the whole document	1,3-7
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <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> </div> <div style="width: 45%;"> <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>"Z" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">5 March 2008</div>		Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">13/03/2008</div>
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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
US 3020057	A	06-02-1962	DE 1301195 B FR 1230498 A FR 76893 E GB 912538 A	16-09-1960 15-12-1961 12-12-1962
US 4471964	A	18-09-1984	DE 3231171 C1 EP 0102461 A2 JP 1627251 C JP 2043942 B JP 59054860 A	19-05-1983 14-03-1984 28-11-1991 02-10-1990 29-03-1984
US 6554904	B1	29-04-2003	AT 211109 T AU 745295 B2 AU 4499899 A BR 9911592 A CA 2333480 A1 CN 1303350 A DE 19823854 A1 WO 9961356 A1 EP 1082259 A1 ES 2169609 T3 JP 2002516387 T	15-01-2002 21-03-2002 13-12-1999 13-02-2001 02-12-1999 11-07-2001 09-12-1999 02-12-1999 14-03-2001 01-07-2002 04-06-2002
GB 2123498	A	01-02-1984	NONE	