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[Continued on next page]

(54) Title: LUBE PUMP RETENTION METHOD

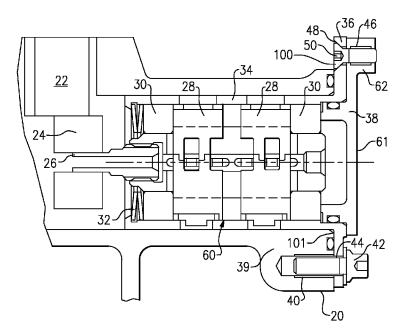


FIG.1

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(57) Abstract: A lube pump has a housing with a flange extending radially outwardly from a body of the housing. At least one rotor is received within the housing, and a shaft for powering the rotor extends away from the flange. A retention plate is positioned on an end of the flange closing the housing. A first set of bolts secure the flange to the retention plate. A second set of bolts secure the flange to the gearbox. The two sets of bolts extend in opposed directions. A gearbox including such a lube pump is also disclosed and claimed.

INTERNATIONAL SEARCH REPORT

International application No PCT/US2011/025655

A. CLASSIFICATION OF SUBJECT MATTER INV. F04C2/344 F01C21/00 ADD.									
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) F01C F04C F16H									
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 practicable, search terms used)									
EPO-Internal, WPI Data									
C. DOCUMENTS CONSIDERED TO BE RELEVANT									
Category*	Citation of document, with indication, where appropriate, of the rele	Relevant to claim No.							
A	US 2 851 896 A (ORDWAY JAMES F) 16 September 1958 (1958-09-16) column 1, line 41 - column 2, line figures 1-4	1,10							
A	DE 27 49 479 A1 (VALMET OY) 8 March 1979 (1979-03-08) the whole document		1,10						
<u> </u>	her documents are listed in the continuation of Box C.	X See patent family annex.							
"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 Date of the actual completion of the international search		"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 mailing of the international search report							
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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, Fax: (+31-70) 340-3016		Authorized officer Papastefanou, M							

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2011/025655

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2851896	A	16-09-1958	NONE		•
DE 2749479	A1	08-03-1979	DE FI	2749479 A1 772529 A	08-03-1979 26-02-1979