

12 **EUROPEAN PATENT APPLICATION**

21 Application number: **88100323.0**

51 Int. Cl.4: **F03C 2/08 , F04C 15/04**

22 Date of filing: **12.01.88**

30 Priority: **28.01.87 US 7882**

43 Date of publication of application:
03.08.88 Bulletin 88/31

84 Designated Contracting States:
DE FR GB IT

88 Date of deferred publication of the search report:
10.05.89 Bulletin 89/19

71 Applicant: **EATON CORPORATION**
Eaton Center 1111 Superior Avenue
Cleveland Ohio 44114(US)

72 Inventor: **Bernstrom, Marvin Lloyd**
8611 Red Oak Drive
Eden Prairie Minnesota 55344(US)

74 Representative: **Schwan, Gerhard, Dipl.-Ing. et al**
Elfenstrasse 32
D-8000 München 83(DE)

54 **Two-speed valve in-star motor.**

57 A rotary fluid pressure device is disclosed of the type including a gerotor gear set including a ring member (19) and a star member (23). Both manifold valving and commutator valving are accomplished at an interface between an end surface (42) of the star (23) and an end surface (41) of an endcap member (17). The endcap (17) defines three concentric pressure chambers (43), (51) and (47), and the star defines three concentric manifold zones (63), (67), and (65) which are in continuous communication with the pressure chambers (43), (51) and (47), respectively. The various manifold zones (63), (67), and (65) defined by the star communicate with fluid ports (69), (77) and (73), respectively which are also defined by the end surface (42) of the star (23). A valve spool (97) is selectively operable between a first condition providing communication between the manifold zones (63) and (67) to achieve a low-speed, high-torque (LSHT) mode of operation, and a second condition providing communication between the manifold zones (67) and (65) to achieve a high-speed, low-torque (HSLT) mode of operation.

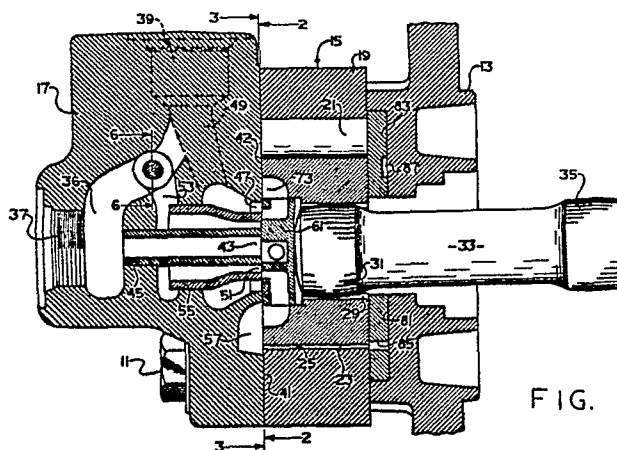


FIG. 1

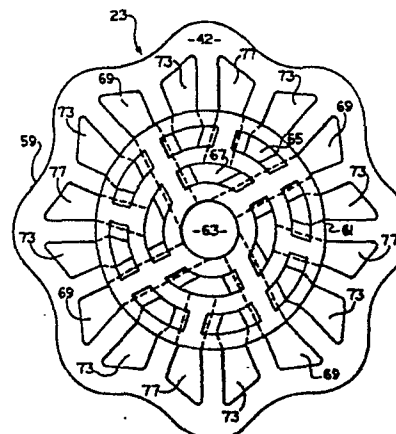


FIG. 4



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	DE-A-3 008 832 (TOKYO KEIKI) * Pages 14-17; figures 2,3 * ---	1-3,15	F 03 C 2/08 F 04 C 15/04
D,A	US-A-4 480 971 (SWEDBERG) * Column 3, line 44 - column 4, line 48; figures 1,3, column 5, line 5 - column 6, line 9; figure 2 * ---	1-5,10-12,15	
A	FR-A-2 196 678 (DANFOSS) * Pages 3,4,5; figures * ---	1,6-10	
A	US-A-3 892 503 (GETMAN) * Columns 9-14; figures * -----	1,15	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			F 04 C 2/00 F 04 C 15/04 F 03 C 2/00 F 01 C 21/00
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20-02-1989	Examiner KAPOULAS T.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	