

Title (en)  
GEAR FLUID DEVICE

Title (de)  
GETRIEBEFLÜSSIGKEITSVORRICHTUNG

Title (fr)  
DISPOSITIF À FLUIDE POUR ENGRENAGE

Publication  
**EP 3048303 A4 20170419 (EN)**

Application  
**EP 14845988 A 20140812**

Priority  

- JP 2013193276 A 20130918
- JP 2014147177 A 20140717
- JP 2014071332 W 20140812

Abstract (en)  
[origin: EP3048303A1] Groove portions (53, 55) are provided in a sliding contact surface of a first side plate (5) as to be positioned radially inside a root diameter of a drive gear (1) and radially outside a through hole (5a) into which a first rotary shaft (11) of the drive gear (1) is inserted, so that the through hole (5a) and a clearance groove (51) are not communicated with each other. Moreover, grooves (54, 56) are provided radially inside a root diameter of a driven gear (2) on the first side plate and radially outside a through hole (5b) into which a second rotary shaft (12) of the driven gear (2) is inserted, so that the through hole (5b) and the clearance groove (51) are not communicated with each other. As a consequence, a gear fluid device is provided which is capable of effectively preventing wear of sliding contact surfaces while keeping the lubricated state of the bearing part with simple construction.

IPC 8 full level  
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**F04C 29/02** (2006.01)

CPC (source: EP)  
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**F04C 29/028** (2013.01); **F04C 2240/56** (2013.01); **F04C 2280/00** (2013.01)

Citation (search report)  

- [X] US 2718758 A 19550927 - MINSHALL ROBERT J, et al
- [XY] JP H04325785 A 19921116 - SHIMADZU CORP
- [X] WO 03102420 A1 20031211 - KLASSEN JAMES B [US]
- [X] US 3303792 A 19670214 - LITTLEWOOD ELROY G
- [X] US 2354992 A 19440801 - MANIOUS GOTTLIEB
- [Y] JP S61265372 A 19861125 - KAYABA INDUSTRY CO LTD
- See references of WO 2015040985A1

Cited by  
US11143197B2; WO2018114332A1

Designated contracting state (EPC)  
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CN 105492774 B 20170503; ES 2938841 T3 20230417; JP 2015083831 A 20150430; JP 5783305 B2 20150924; TW 201529984 A 20150801;  
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