

Title (en)  
DEVICE FOR THE RELATIVE ANGULAR DISPLACEMENT BETWEEN TWO GEARED SHAFTS

Publication  
**EP 0335083 B1 19910911 (DE)**

Application  
**EP 89102105 A 19890208**

Priority  
DE 3810804 A 19880330

Abstract (en)  
[origin: EP0335083A1] An adjusting piston (6), which can move axially between a driven sprocket wheel support (3) and a flanged shaft (9) connected to a cam shaft (11), divides the cavity formed by the sprocket wheel support (3) and the flanged shaft (9) into two operating chambers (15, 16). The adjusting piston (6) is connected both to the sprocket wheel support (3) and to the flanged shaft (9) in a positively locking manner via helical gear wheels (2, 4, 7, 8). Depending on the position of a control piston (17) arranged in the hollow flanged shaft (9), oil under pressure is supplied from the motor oil circuit into the one operating chamber or the other (15, 16) and displaces the adjusting piston (6) in the axial direction. This longitudinal movement of the adjusting piston causes a relative rotation of the cam shaft (11) with respect to the driven sprocket wheel support (3), via the two helical gear wheels (2, 4, 7, 8). The movement takes place entirely hydraulically in both directions, without any form of auxiliary force.  
<IMAGE>

IPC 1-7  
**F01L 1/34**

IPC 8 full level  
**F01L 1/34** (2006.01); **F01L 1/344** (2006.01)

CPC (source: EP US)  
**F01L 1/34406** (2013.01 - EP US)

Cited by  
US4976229A; DE4027631C1; US5305717A; FR2643941A1; EP0469334A1; US5170756A; DE4024057C1; EP0469332A1; US5138985A; US5566651A; DE4218082C2; DE4218082C5; US8733306B2; US11028738B2; WO2018019633A1; WO2011117019A1

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