

Title (en)

CAMSHAFT ADJUSTER WITH AN ELECTRICAL DRIVE

Title (de)

NOCKENWELLENVERSTELLER MIT ELEKTRISCHEM ANTRIEB

Title (fr)

DISPOSITIF DE REGLAGE D'ARBRE A CAMES A ENTRAINEMENT ELECTRIQUE

Publication

**EP 1504172 B1 20051221 (DE)**

Application

**EP 03749852 A 20030318**

Priority

- DE 10220687 A 20020510
- EP 0302788 W 20030318

Abstract (en)

[origin: WO03095803A1] The invention relates to a device for releasably connecting and adjusting the camshaft (3) and the crankshaft of an internal combustion engine. The inventive device comprises a setting gear (1) configured as a three shaft gear, which has a drive shaft (4) connected to the crankshaft, an output shaft (5) connected to the camshaft and an adjusting shaft (6) connected to an electrical adjusting motor (2), wherein a stationary transmission i0, which has a base or emergency running position, is present between the drive and outputs shafts (4, 5) when the adjusting shaft (6) is idle, the level of said stationary transmission determining the gear type (positive or negative gear) and the direction of adjustment of the camshaft (3). Functional safety of the device is improved due to the fact that the base or emergency running position of the camshaft (3) can be reached and maintained in case of outage of the adjusting motor (2) and/or the control thereof by a slow-down or arrest of the adjusting shaft (6), simultaneous rotation of the drive shaft (4) as well by an appropriate stationary transmission i0.

IPC 1-7

**F01L 1/34**; **F01L 1/352**; **F02D 13/02**; **F01L 1/344**

IPC 8 full level

**F01L 1/34** (2006.01); **F01L 1/344** (2006.01); **F01L 1/352** (2006.01)

CPC (source: EP KR US)

**F01L 1/024** (2013.01 - EP US); **F01L 1/34** (2013.01 - EP KR US); **F01L 1/344** (2013.01 - EP KR US); **F01L 1/352** (2013.01 - EP KR US); **F02D 13/02** (2013.01 - KR)

Cited by

DE102012207318B4; DE102012207318A1; WO2013164129A1; US9334762B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**WO 03095803 A1 20031120**; AU 2003215663 A1 20031111; DE 10220687 A1 20031120; DE 50302006 D1 20060126; EP 1504172 A1 20050209; EP 1504172 B1 20051221; JP 2005525495 A 20050825; JP 4233521 B2 20090304; KR 100976099 B1 20100816; KR 20040106496 A 20041217; US 2005061278 A1 20050324; US 2006112921 A1 20060601; US 7032552 B2 20060425

DOCDB simple family (application)

**EP 0302788 W 20030318**; AU 2003215663 A 20030318; DE 10220687 A 20020510; DE 50302006 T 20030318; EP 03749852 A 20030318; JP 2004503779 A 20030318; KR 20047017940 A 20030318; US 32652906 A 20060105; US 97948704 A 20041102