Title (en)

AUTOMATIC-CONTROL DEVICE FOR CHANGING THE RELATIVE ROTATIONAL POSITION OF SHAFTS IN AN INTERNAL-COMBUSTION ENGINE.

Title (de)

VORRICHTUNG ZUR SELBSTTÄTIG GESTEUERTEN ÄNDERUNG DER RELATIVEN DREHLAGE VON WELLEN IN EINER BRENNKRAFTSMASCHINE.

Title (fr)

DISPOSITIF DE MODIFICATION A COMMANDE AUTOMATIQUE DE LA POSITION ANGULAIRE RELATIVE D'ARBRES DANS DES MOTEURS A COMBUSTION INTERNE.

Publication

EP 0545984 B1 19940727

Application

EP 91914901 A 19910816

Priority

- DE 4027631 A 19900831
- EP 9101553 W 19910816

Abstract (en)

[origin: DE4027631C1] The device proposed enables the rotational position of e.g. a cam shaft (2) to be continuously adjusted relative to the crankshaft driving it in order to modify the control reaction times in an internal-combustion engine. The device comprises an intermediate gear wheel (7) which moves axially between two extreme positions and which meshes by means of helical outer and inner toothing (6, 10) with a drive pinion (4) and the cam shaft (2). An annular space (17) in a stationary ring bearing (16) is filled with an electroviscous fluid which, on application of a voltage by an electronic control unit (30), produces a force acting to displace the intermediate gear wheel (7). An electroviscous locking bearing (21) between the cam shaft (2) and the intermediate gear wheel (7) holds the intermediate gear wheel (7) in any position between its two extreme positions (E1, E2).

IPC 1-7

F01L 1/34; F16D 3/10; F16D 37/00

IPC 8 full level

F01L 1/34 (2006.01); **F01L 1/344** (2006.01); **F16D 3/10** (2006.01); **F16D 37/00** (2006.01)

CPC (source: EP US)

F01L 1/34406 (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

DE 4027631 C1 19910919; DE 59102377 D1 19940901; EP 0545984 A1 19930616; EP 0545984 B1 19940727; JP H06500379 A 19940113; US 5305717 A 19940426; WO 9204530 A1 19920319

DOCDB simple family (application)

DE 4027631 A 19900831; DE 59102377 T 19910816; EP 9101553 W 19910816; EP 91914901 A 19910816; JP 51388991 A 19910816; US 97744193 A 19930225