

Title (en)

SPRING ARRANGEMENT FOR A VARIABLE VALVE DRIVE OF AN INTERNAL COMBUSTION ENGINE

Title (de)

FEDERANORDNUNG FÜR EINEN VARIABLEN VENTILTRIEB EINER VERBRENNUNGSKRAFTMASCHINE

Title (fr)

SYSTÈME DE RESSORTS POUR COMMANDE DE SOUPAPE VARIABLE DE MOTEUR À COMBUSTION INTERNE

Publication

EP 3014080 A1 20160504 (DE)

Application

EP 14715302 A 20140404

Priority

- DE 102013106646 A 20130625
- EP 2014056799 W 20140404

Abstract (en)

[origin: WO2014206591A1] Spring arrangements for a variable valve drive of an internal combustion engine having an intermediate lever (12), at least one camshaft roller (24) on the intermediate lever (12), which camshaft roller (24) bears against a camshaft (10), a slotted roller (26) on the intermediate lever (12), which slotted roller (26) bears against a slotted guide (28), at least one control shaft roller (32) on the intermediate lever (12), which control shaft roller (32) bears against a control shaft (30) and is arranged on that side of the camshaft roller (24) which faces away from the slotted guide (28), at least one working cam contour (34) which is formed at that end of the intermediate lever (12) which lies opposite the camshaft roller (24) and acts on a roller drag lever (14) of a gas exchange valve (18), and at least one spring element (44), via which the camshaft roller (24) of the intermediate lever (12) is loaded against the camshaft (10) and the slotted roller (26) is loaded against the slotted guide (28), are known. In order to achieve defined contact with optimized contact forces for positioning the intermediate lever, it is proposed that an end limb (50) of the spring element (44) bears in a prestressed manner against a contact surface (56) of the intermediate lever (12) on a side of the intermediate lever (12) which faces away from the working cam contour (34) and the camshaft (10), and the spring element (44) has a force component on the contact surface (56) in the direction of the camshaft (10) and in the direction of the slotted guide (28).

IPC 8 full level

F01L 1/14 (2006.01); **F01L 1/18** (2006.01); **F01L 1/344** (2006.01); **F01L 13/00** (2006.01)

CPC (source: EP US)

F01L 1/14 (2013.01 - EP US); **F01L 1/344** (2013.01 - EP US); **F01L 13/0021** (2013.01 - EP US); **F01L 13/0063** (2013.01 - EP US); **F01L 1/185** (2013.01 - EP US); **F01L 2013/0068** (2013.01 - EP US); **F01L 2305/00** (2020.05 - EP US)

Citation (search report)

See references of WO 2014206591A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102013106646 A1 20150108; EP 3014080 A1 20160504; EP 3014080 B1 20170607; US 2016146066 A1 20160526; US 9784142 B2 20171010; WO 2014206591 A1 20141231

DOCDB simple family (application)

DE 102013106646 A 20130625; EP 14715302 A 20140404; EP 2014056799 W 20140404; US 201414899560 A 20140404