

Title (en)  
VALVE TRAIN DEVICE

Title (de)  
VENTILTRIEBVORRICHTUNG

Title (fr)  
DISPOSITIF D'ENTRAINEMENT DE SOUPAPE

Publication  
**EP 2304197 A1 20110406 (DE)**

Application  
**EP 09765565 A 20090610**

Priority  
• EP 2009004164 W 20090610  
• DE 102008029349 A 20080620

Abstract (en)  
[origin: WO2009152985A1] The invention relates to a valve train device, particularly of an internal combustion engine, having an actuating device (10, 10a; 10b) that is provided to displace at least one axially displaceable cam element (11, 12, 11a, 12a; 11b, 12b), and which comprises a gear shifting gate (13a; 13b, 16) for displacing the cam element (11, 12, 11a, 12a; 11b, 12b), and at least one switchgear unit (13, 18, 22a, 23a) comprising a switch element (14, 19, 20a) and an actuator (15, 17, 55a), wherein the switch element (14, 19, 20a) is provided in order to engage into the gear shifting gate (13a; 13b, 16) at least in one switching position, and the actuator (15, 17, 55a) is provided in order to move the switch element (14, 19, 20a) into the switching position. The invention provides that the gear shifting gate (13a; 13b, 16) comprises at least one intermediate segment (14a-19a; 14b, 15b, 52-57) that is provided to terminate a switching action.

IPC 8 full level  
**F01L 1/053** (2006.01); **F01L 13/00** (2006.01)

CPC (source: EP US)  
**F01L 1/053** (2013.01 - EP US); **F01L 13/0036** (2013.01 - EP US); **F01L 2013/0052** (2013.01 - EP US)

Citation (search report)  
See references of WO 2009152985A1

Designated contracting state (EPC)  
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 SE SI SK TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**DE 102008029349 A1 20091224**; CN 102066699 A 20110518; CN 102066699 B 20140416; EP 2304197 A1 20110406; JP 2011524494 A 20110901; JP 5461540 B2 20140402; US 2011079191 A1 20110407; US 8893674 B2 20141125; WO 2009152985 A1 20091223

DOCDB simple family (application)  
**DE 102008029349 A 20080620**; CN 200980123209 A 20090610; EP 09765565 A 20090610; EP 2009004164 W 20090610; JP 2011513923 A 20090610; US 92711910 A 20101105