

Title (en)

Variable valve operating system for internal combustion engine

Title (de)

Variables Ventilbetriebssystem für einen Verbrennungsmotor

Title (fr)

Système de fonctionnement de soupape variable pour moteur à combustion interne

Publication

**EP 2322771 B1 20120627 (EN)**

Application

**EP 10190636 A 20101110**

Priority

JP 2009258991 A 20091112

Abstract (en)

[origin: EP2322771A1] A variable valve operating system includes a circular eccentric portion (22) provided for a control shaft (17), an external gear formed on a cam follower (31) swingably supported on the eccentric shaft portion, and an internal gear formed on a rocking cam (23) so as to be engaged with the external gear. The external gear is revolved by the eccentric shaft portion (22) around the axis of the control shaft (17), an engaged portion of the internal gear with the external gear is moved in a circumferential direction of the internal gear by the revolution of the external gear, and the position of the rocking cam (23) with respect to the cam follower (31) is changed by the movement of the engaged portion of the internal gear.

IPC 8 full level

**F01L 13/00** (2006.01)

CPC (source: EP US)

**F01L 13/0026** (2013.01 - EP US); **F01L 13/0063** (2013.01 - EP US)

Cited by

CN103016091A; DE102011014744A1; DE102011014744B4; US9835057B2; US9133737B2; US9869215B2; US10138764B2; US10082053B2; US10132248B2; US9915182B2; US10563551B2; US9739183B2; US10208681B2

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

DOCDB simple family (publication)

**EP 2322771 A1 20110518**; **EP 2322771 B1 20120627**; CN 102061957 A 20110518; CN 102061957 B 20130508; JP 2011106279 A 20110602; JP 5294156 B2 20130918; US 2011107989 A1 20110512

DOCDB simple family (application)

**EP 10190636 A 20101110**; CN 201010555631 A 20101112; JP 2009258991 A 20091112; US 94161810 A 20101108