

## Title (en)

Valve operating system for internal combustion engine

## Title (de)

Ventilantriebssystem für eine Brennkraftmaschine

## Title (fr)

Système de commande de soupape pour moteur à combustion interne

## Publication

**EP 0717174 A1 19960619 (EN)**

## Application

**EP 95119507 A 19951211**

## Priority

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- JP 2112995 A 19950112
- JP 4624195 A 19950210

## Abstract (en)

In a valve operating system for an internal combustion engine having a rocker arm 12 permitting alteration of lift timing of valve 1 by shifting the rocking fulcrum, a roller for attaining a rolling contact is provided at least at one of the contacting positions on the driving force-delivering way between a cam for providing a driving force and a valve. Thus, a force necessary for driving the cam can be reduced even with a multi-cylinder internal combustion. In addition, one contact surface on the driving force-delivering way is made a circular surface with the center of the shaft 8 of the cam 9 as its center. In altering the relation between the valve-lifting degree and lift timing, the rocking fulcrum 15C of the second rocker arm 12 is properly shifted in the direction shown by the arrow A or B. The above-described circular surface serves for the rocker arm 6 not to be shifted upon alteration described above. An increase in surface-to-surface pressure per unit area at the contact surface can be avoided by employing such structure that the cam 9 and the second rocker arm do not axially deviate from each other. Employment of a mechanically strong mechanism using gears or the like as a mechanism for controlling the position of said rocking fulcrum 15C. <IMAGE>

## IPC 1-7

**F01L 13/00**

## IPC 8 full level

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## Citation (applicant)

JP S6453009 A 19890301 - HONDA MOTOR CO LTD

## Citation (search report)

- [XA] WO 9413935 A1 19940623 - BAYERISCHE MOTOREN WERKE AG [DE], et al
- [A] DE 2256093 A1 19740522 - DAIMLER BENZ AG
- [A] FR 2357731 A1 19780203 - CHRYSLER FRANCE [FR]
- [A] DE 4243169 C1 19940526 - DAIMLER BENZ AG [DE]
- [A] DE 2629554 A1 19780112 - DAIMLER BENZ AG

## Cited by

EP1605142A4; GB2357131A; DE102004004179A1; CN100439662C; FR2799792A1; CN108194159A; GB2395229A; ITBO20090063A1; DE102017119348A1; EP2157292A1; GB2403770A; CN103925036A; DE10312961C5; DE10312961B3; US6584943B1; CN110295967A; DE10312958B4; DE10036373A1; DE10066054B4; EP1985816A1; EP1143119A3; CN103184910A; CN104088682A; CN103161543A; CN112302754A; FR2872542A1; DE10164493B4; KR100953463B1; CN103925030A; CN110005496A; FR2890692A1; EP1923546A4; EP3173593A1; US2017152769A1; CN107035452A; RU2724811C2; DE10312959B4; CN1322227C; US6145485A; US5899180A; EP0761935A3; US7748356B2; EP0962629A2; US6932035B1; US6997153B2; WO2004085802A1; US7363899B2; WO2006136125A1; WO0008309A1; WO2006121181A1; WO03058039A1; US7779797B2; US10436079B2; US7117831B2; US10619527B2; US7591238B2; US9281144B2; JP2005214199A; WO2004085804A1; WO03008772A1

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