

Title (en)

Valve drive apparatus for an internal combustion engine having a convex shim between a cam and a valve

Title (de)

Ventiltriebvorrichtung für eine Brennkraftmaschine mit einem konvexen Abstandsstück zwischen einer Nocke und einem Ventil

Title (fr)

Dispositif d'entraînement de soupape pour un moteur à combustion interne ayant une cale de forme convexe entre une came et une soupape

Publication

EP 0777039 A1 19970604 (EN)

Application

EP 96119089 A 19961128

Priority

- JP 31116495 A 19951129
- JP 29674696 A 19961108

Abstract (en)

A valve drive apparatus having a shim (24) which is prevented from interfering with a cylinder head (28) without decreasing abrasion resistance between the shim and a lifter (23) contacting the shim (24). A three-dimensional cam (21) includes a cam portion (25) having a slanting cam surface (27) inclined with respect to a rotational axis of the cam. The cam (21) is movable in either direction along the rotational axis. The lifter (23) transmits a force generated by a camming action of the cam to a valve (22). The lifter has a first surface contacting the valve and a second surface (32) substantially opposite to the first surface. A shim (24) is interposed between the cam (21) and the lifter (23). The shim (24) has a first surface (33) contacting the cam and a second surface (34) opposite to the first surface (33). The second surface (34) of the shim (24) has a convex spherical shape, and the second surface (32) of the lifter (23) has a concave spherical shape so as to receive the second surface (34) of the shim (24).
<IMAGE>

IPC 1-7

F01L 13/00; F01L 1/14; F01L 1/18

IPC 8 full level

F01L 1/12 (2006.01); **F01L 1/14** (2006.01); **F01L 1/18** (2006.01); **F01L 1/20** (2006.01); **F01L 13/00** (2006.01)

CPC (source: EP)

F01L 1/143 (2013.01); **F01L 1/185** (2013.01); **F01L 13/0042** (2013.01)

Citation (applicant)

JP H0342001 U 19910422

Citation (search report)

- [XA] EP 0512698 A1 19921111 - FORD MOTOR CO [GB], et al
- [XA] US 3915129 A 19751028 - RUST ROBERT H, et al
- [A] US 4850311 A 19890725 - SOHN DO Y [US]
- [A] GB 1192099 A 19700520 - CATERPILLAR TRACTOR CO [US]

Cited by

DE102007042457A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0777039 A1 19970604; **EP 0777039 B1 19990616**; DE 69602913 D1 19990722; DE 69602913 T2 20000323; JP H09209727 A 19970812

DOCDB simple family (application)

EP 96119089 A 19961128; DE 69602913 T 19961128; JP 29674696 A 19961108