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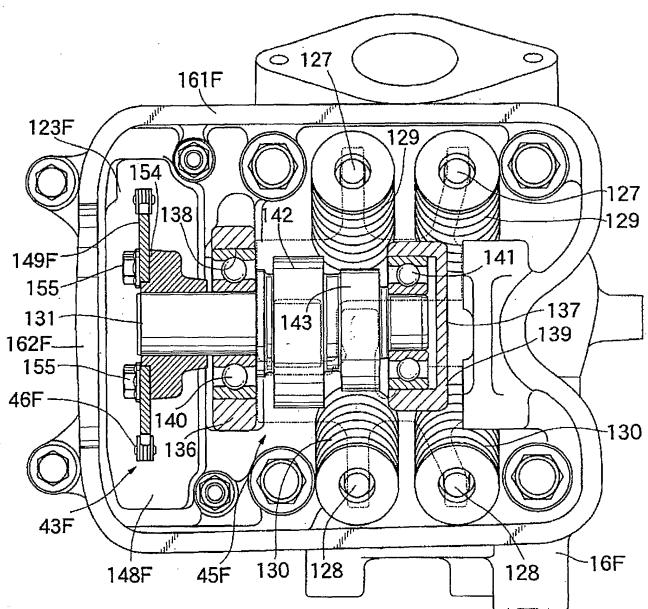
(54) Overhead cam engine

(57) To compact a combustion chamber and down-size a cylinder head (16F) in an overhead cam engine, wherein a cam shaft (131) is provided between intake and exhaust valve springs (129, 130) and is rotatably supported by the cylinder head (16F); and wherein the cam shaft (131) is provided with a first cam (142) to drive one of an intake valve (127) and an exhaust valve (128) and is provided with a second cam (143) to drive the other of the intake valve (127) and the exhaust valve

(128).

A cylinder head (16F) supports a cam shaft (131) with its axis line approximately disposed above a cylinder axis line. A second cam (143) is disposed between intake and exhaust valve springs (129, 130) and is formed to be smaller than a first cam (142). The first cam (142) is disposed farther from the position between the intake and exhaust valve springs (129, 130) along the direction of the axis line of the cam shaft (131).

FIG. 6





DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP 0 607 918 A (HONDA GIKEN KOGYO KABUSHIKI KAISHA) 27 July 1994 (1994-07-27) * column 4, line 16 - column 8, line 7; figures 2,3 *	1-5	F01L1/053 F02F1/38
A	EP 0 422 277 A (YAMAHA MOTOR CO., LTD) 17 April 1991 (1991-04-17) * column 8, line 32 - column 10, line 33; figures 6,7 *	1	
A	US 3 412 720 A (BINDER ROBERT) 26 November 1968 (1968-11-26) * column 2, line 39 - line 69; figures 1,2 *	1	
A	US 5 988 129 A (PRIOR ET AL) 23 November 1999 (1999-11-23) * column 1, line 49 - column 2, line 16; figures 1,2 *	1	
	-----		TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F01L F02F
2	The present search report has been drawn up for all claims		
Place of search		Date of completion of the search	Examiner
Munich		4 July 2005	Tietje, K
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 10 0944

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-07-2005

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0607918	A	27-07-1994	JP	3319794 B2	03-09-2002
			JP	6212927 A	02-08-1994
			DE	69400044 D1	15-02-1996
			DE	69400044 T2	13-06-1996
			EP	0607918 A1	27-07-1994
			US	5460130 A	24-10-1995
<hr/>					
EP 0422277	A	17-04-1991	EP	0422277 A1	17-04-1991
			DE	68913740 D1	14-04-1994
			DE	68913740 T2	23-06-1994
<hr/>					
US 3412720	A	26-11-1968	DE	1294737 B	08-05-1969
			GB	1118910 A	03-07-1968
<hr/>					
US 5988129	A	23-11-1999	DE	19944293 A1	23-03-2000
<hr/>					