

10 Documents

Publication numbers	Title	Current assignees
WO2010126479 A1	Dedicated rocker arm engine brake	JACOBS VEHICLE SYSTEMS
IT2008TO0216 A1	Valve actuating mechanism for an internal combustion engine , and cylinder head incorporating same	HONDA MOTOR
US20080236531 A1	Valve actuating mechanism for an internal combustion engine , and engine incorporating same	HONDA MOTOR
US20050224028 A1	Variable valve unit for internal combustion engine	MITSUBISHI MOTORS, ...
US20100242875 A1	Valve gear for internal combustion engines	HONDA MOTOR
WO9518917 A1	Variable timing camshaft with variable valve list	STEPHEN KEITH MADDEN
CN103321682 A	Internal combustion engine with cylinders in annular arrangement	TANG RENZHONG
JP2008095620 A	Variable valve gear for internal combustion engine	TOYOTA MOTOR
DE19643711 A1	Valve operating gear for internal combustion engine	AUDI
US20110061624 A1	Ignition device attachment structure for internal combustion engine	HONDA MOTOR

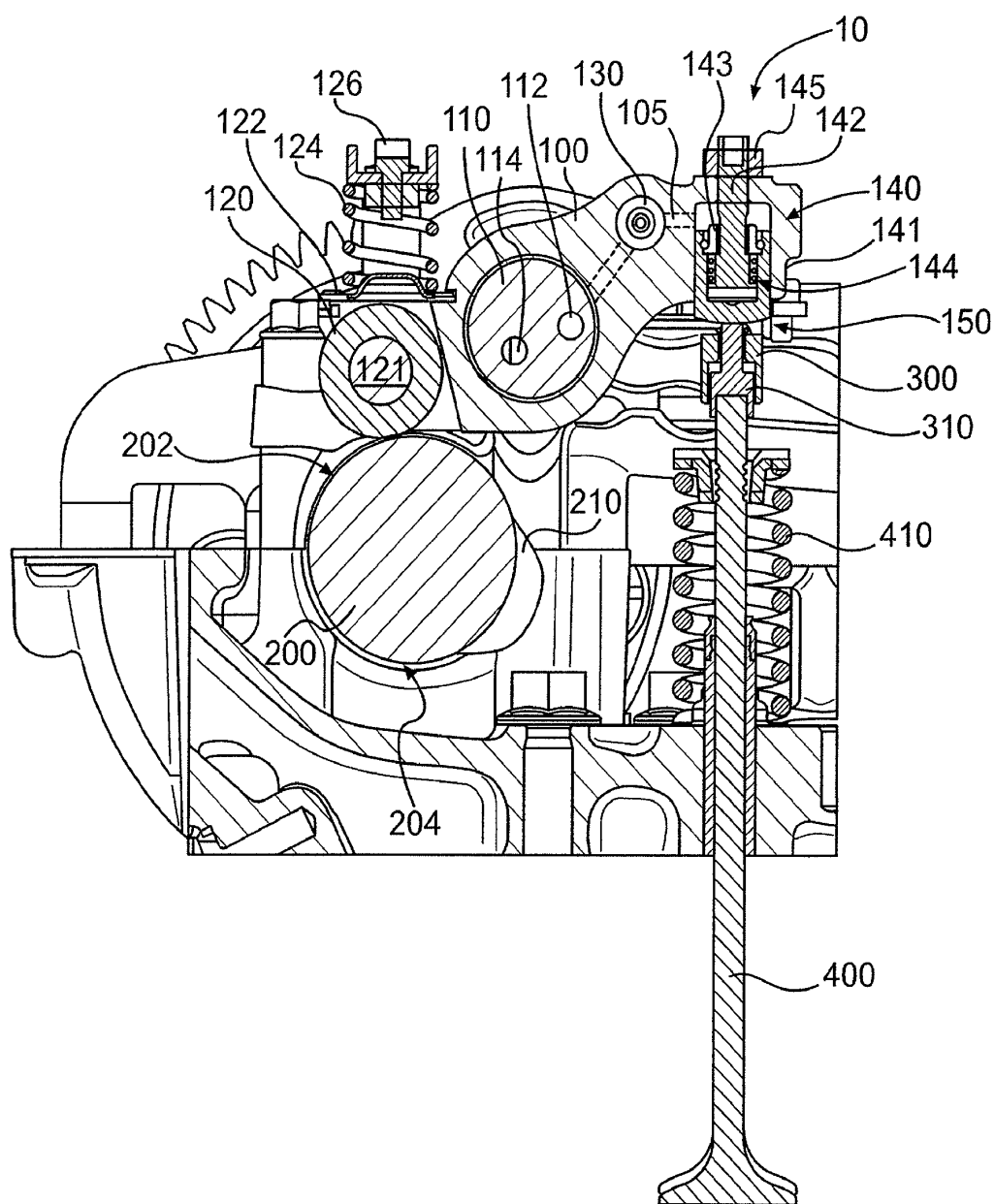
Family 1/10 - FAMPAT - ©Questel

Title

(EP2425105)

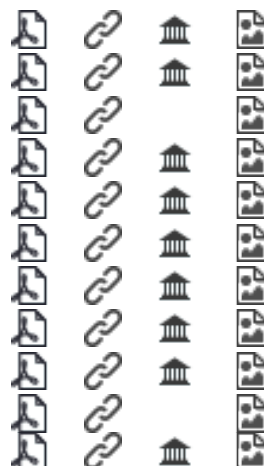
Dedicated rocker arm engine brake

Images



Publication data including kind & date

WO2010126479	A1	2010-11-04	WO2010126479
IN2707/DELNP/2010	A	2011-10-14	IN2010DN02707
RU2010116899	A	2011-11-10	RU2010116899
KR20120011311	A	2012-02-07	KR20120011311
US20120048232	A1	2012-03-01	US20120048232
EP2425105	A1	2012-03-07	EP2425105
CN102414403	A	2012-04-11	CN102414403
JP2012525523	A	2012-10-22	JP2012525523
EP2425105	A4	2012-11-28	EP2425105
RU2496011	C2	2013-10-20	RU2496011



JP5508520	B2	2014-06-04	JP5508520				
EP2425105	B1	2014-07-23	EP2425105				
US8851048	B2	2014-10-07	US8851048				
KR101501039	B1	2015-03-10	KR101501039				
BRPI0905084	A2	2015-06-30	BR200905084				
CN102414403	B	2015-09-09	CN102414403B				

Abstract

(EP2425105)

A system for actuating an **engine valve** is disclosed. The system may include a rocker **arm shaft** (110) having a control fluid supply passage (112) and an exhaust rocker **arm** (500) pivotally mounted on the rocker **arm shaft** (110). A cam (210) for imparting main exhaust **valve** actuation to the exhaust rocker **arm** (500) may contact a cam roller associated with the exhaust rocker **arm**. A **valve** bridge (300) may be disposed between the exhaust rocker **arm** (500) and first and second **engine** valves (400, 450). A sliding pin (310) may be provided in the **valve** bridge (300), said sliding pin contacting the first **engine valve** (400). An **engine** braking rocker **arm** (100) may be pivotally mounted on the rocker **arm shaft** (110) adjacent to the exhaust rocker **arm** (500). The **engine** braking rocker **arm** may have a central opening, a hydraulic passage (102) connecting the central opening with a control **valve** (130), and a fluid passage (105) connecting the control **valve** with an actuator piston assembly (140). The actuator piston assembly may include an actuator piston (141) adapted to contact the sliding pin (310) during **engine** braking operation. A bushing (115) may be disposed between the **engine** braking rocker **arm** (100) and the rocker **arm shaft** (110). The bushing may have a port (118) which registers with the hydraulic passage (102). A cam (200) is provided for imparting **engine** braking actuation to the **engine** braking rocker **arm** (100). A plate (122) is fastened to a back end of the **engine** braking rocker **arm** (100), and a spring (124) biases the plate and the **engine** braking rocker **arm** (100) into contact with the cam (200).

Inventors

MEISTRICK ZDENEK S

Latest standardized assignees - inventors removed

JACOBS VEHICLE SYSTEMS

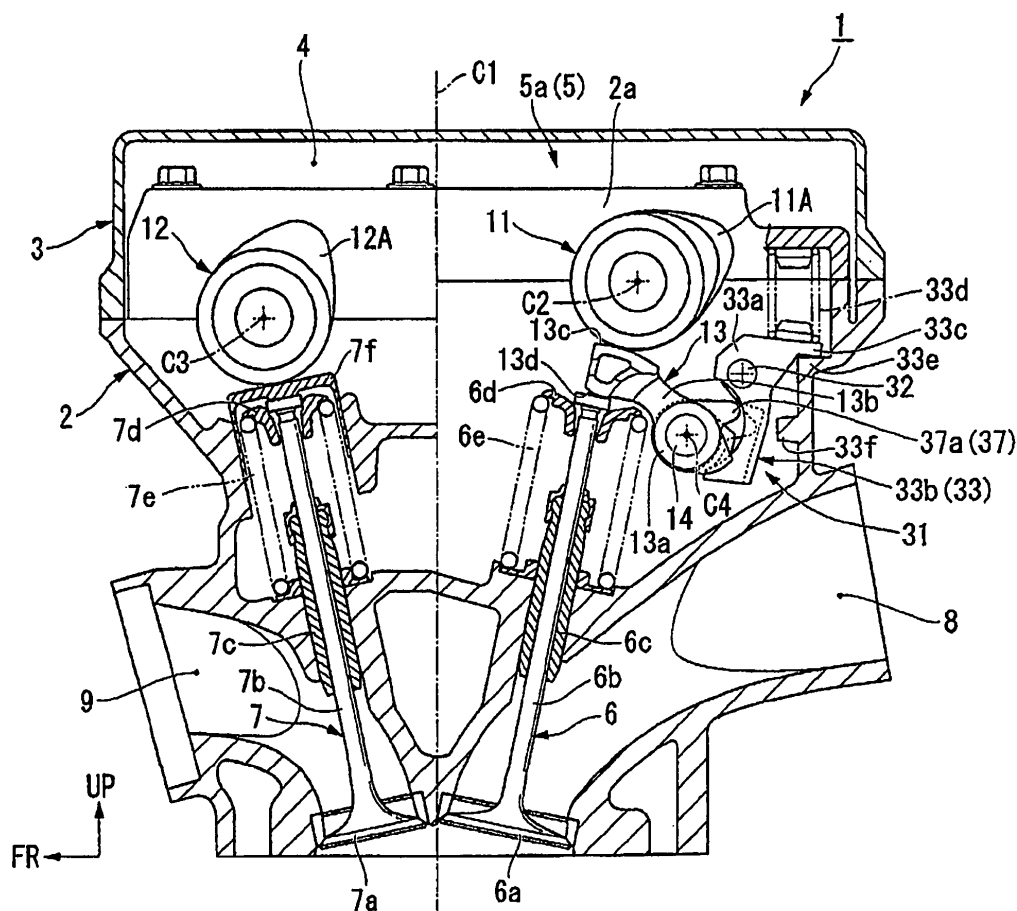
Family 2/10 - FAMPAT - ©Questel

Title

(US7913658)

Valve actuating mechanism for an internal combustion **engine**, and **cylinder** head incorporating same

Images



Publication data including kind & date

ITTO20080216	A1	2008-09-30	IT2008TO0216
US20080236526	A1	2008-10-02	US20080236526
DE102008015197	A1	2008-10-09	DE102008015197
JP2008248870	A	2008-10-16	JP2008248870
US7913658	B2	2011-03-29	US7913658
JP4741541	B2	2011-08-03	JP4741541
DE102008015197	B4	2013-02-28	DE102008015197



Abstract

(US7913658)

A **valve** actuating mechanism for an internal combustion **engine** includes a first rocker **arm** moving mechanism, a second rocker **arm** moving mechanism, and a trigger **arm**. The first rocker **arm** moving mechanism moves left and right rocker **arms** from a first operation position side to a second operation position side. The second rocker **arm** moving mechanism moves the left and right rocker **arms** from the second operation position side to the first operation position side, and the trigger **arm** selectively restricts the movement of the left and right rocker **arms**. During **engine** operation, left and right rocker-side key portions of the left and right rocker **arms**, respectively, and left and right trigger-side key portions of the trigger **arm** selectively maintain or remove a restriction on the movement of the left and right rocker **arms**, in response to a rocking state of the left and right rocker **arms**.

Inventors

YAMAMOTO TOSHIO

SHIMIZU MASAHIRO

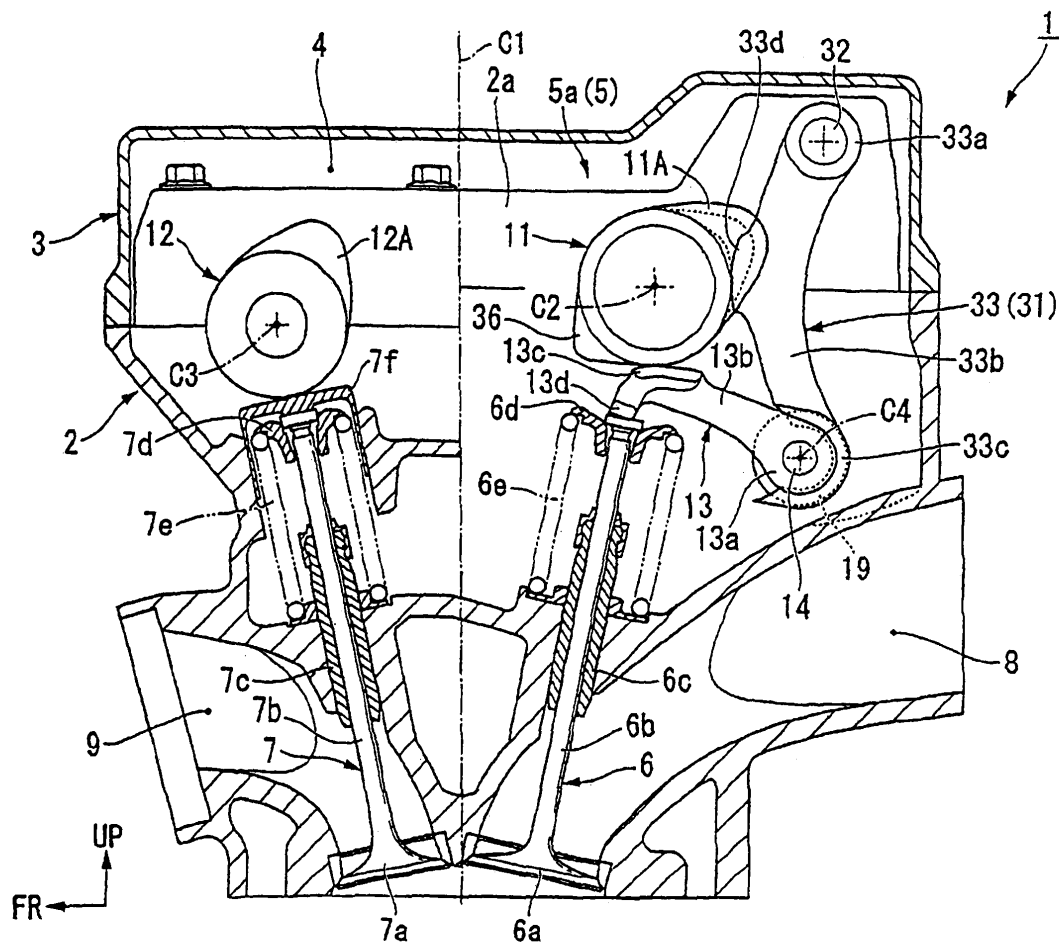
Latest standardized assignees - inventors removed

HONDA **MOTOR**

(US7845325)

Valve actuating mechanism for an internal combustion engine, and engine incorporating same

Images

**Publication data including kind & date**

US20080236531	A1	2008-10-02	US20080236531
DE102008015216	A1	2008-10-02	DE102008015216
JP2008248872	A	2008-10-16	JP2008248872
US7845325	B2	2010-12-07	US7845325
JP4741542	B2	2011-08-03	JP4741542

**Abstract**

(US7845325)

A valve actuating mechanism for an engine having a rocker arm movement restraining device which controls opening and closing an engine valve. The rocker arm movement restraining device includes a timing arm which engages left and right rocker arms for constraining the axial movement thereof, and a timing cam disposed on an intake-side camshaft. The rocker arm movement restraining device releases the engagement of the timing arm with the left and right rocker arms by activating the timing arm when the intake-side camshaft is rotated, and when the timing arm releases the engagement with the left and right rocker arms, the left and right rocker arms move to a predetermined operating position.

Inventors

YAMAMOTO TOSHIO

KUROKI MASAHIRO

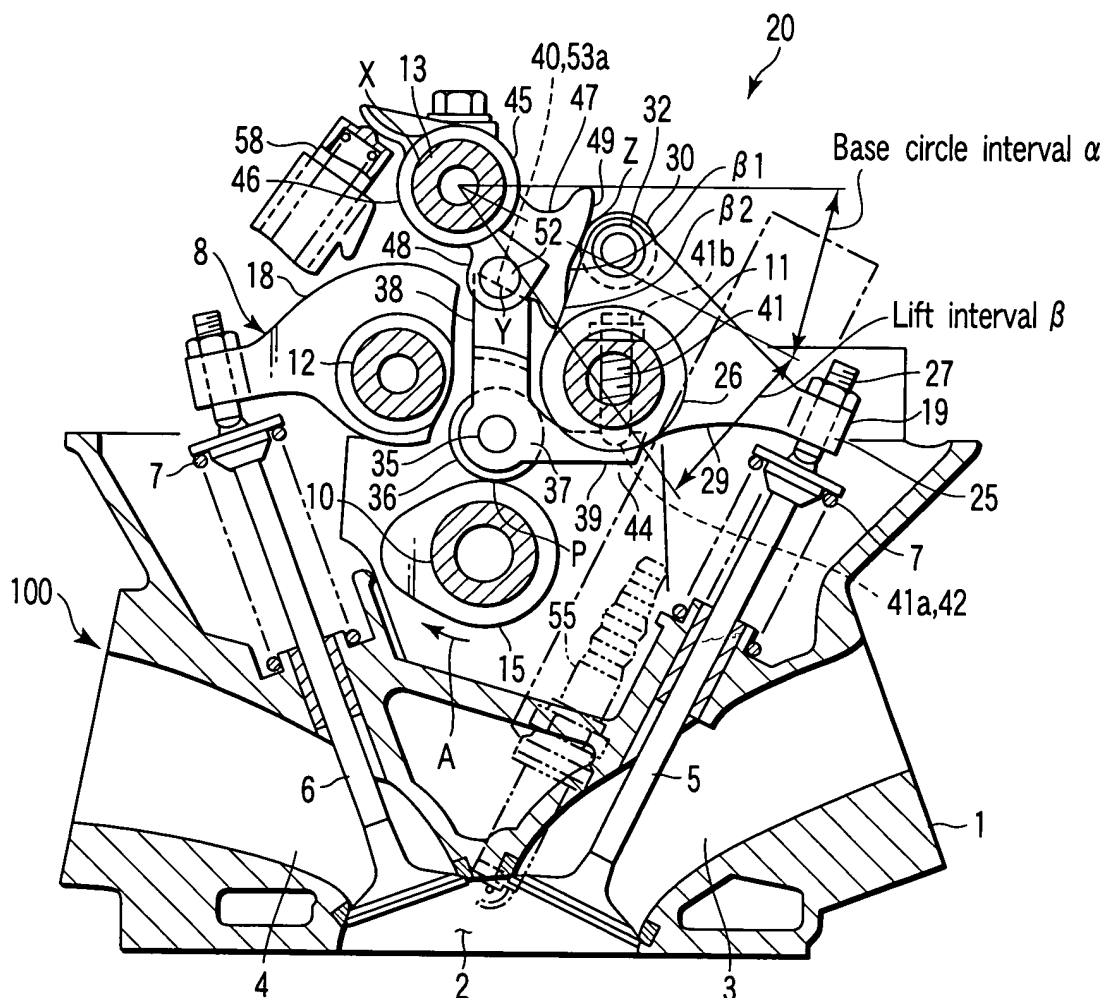
Latest standardized assignees - inventors removed

HONDA MOTOR

Family 4/10 - FAMPAT - ©Questel

Title

(US6994063)

Variable **valve** unit for internal combustion **engine****Images****Publication data including kind & date**

US20050224028	A1	2005-10-13	US20050224028
CN1683753	A	2005-10-19	CN1683753
JP2005299537	A	2005-10-27	JP2005299537
JP2005299535	A	2005-10-27	JP2005299535
JP2005299534	A	2005-10-27	JP2005299534
DE102005017066	A1	2005-11-10	DE102005017066
US6994063	B2	2006-02-07	US6994063
KR20060045604	A	2006-05-17	KR20060045604
KR100621961	B1	2006-09-19	KR100621961
JP4180014	B2	2008-11-12	JP4180014
JP4180013	B2	2008-11-12	JP4180013
JP4180012	B2	2008-11-12	JP4180012
CN100460631	C	2009-02-11	CN100460631C
DE102005017066	B4	2010-07-29	DE102005017066

**Abstract**

(US6994063)

The invention includes a first **arm** which opens and closes a **valve**, a second **arm** which is driven by a cam, a third **arm** which drives the first **arm** upon receiving a displacement of the second **arm**, and a variable mechanism which varies a supporting point of the second **arm**. The second **arm** includes a driving surface. The third **arm** includes an axis member in which a driven surface coming into surface contact with the driving surface is formed. The displacement of the second **arm** is transferred to the third **arm** with slippage occurring between the driven surface and the driving surface.

Inventors

MURATA SHINICHI

Latest standardized assignees - inventors removed

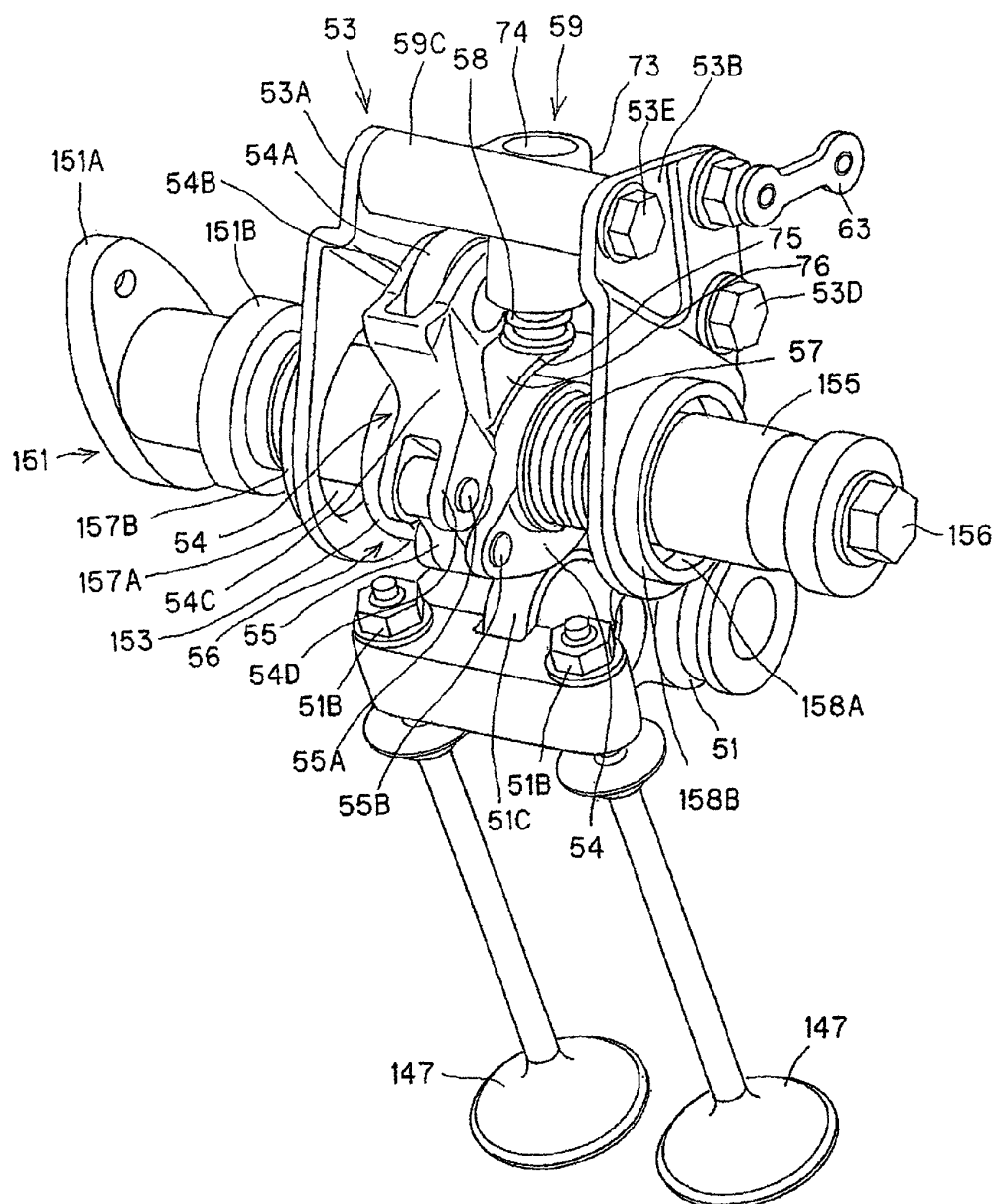
MITSUBISHI MOTORS

MITSUBISHI FUSO TRUCK & BUS

Family 5/10 - FAMPAT - ©Questel

Title

(US8225761)

Valve gear for internal combustion engines**Images**

Publication data including kind & date

US20100242875	A1	2010-09-30	US20100242875
JP2010229941	A	2010-10-14	JP2010229941
JP2010229940	A	2010-10-14	JP2010229940
JP2010229939	A	2010-10-14	JP2010229939
DE102010002971	A1	2010-12-02	DE102010002971
US8225761	B2	2012-07-24	US8225761
JP5212652	B2	2013-06-19	JP5212652
JP5340781	B2	2013-11-13	JP5340781
JP5346644	B2	2013-11-20	JP5346644

**Abstract**

(US8225761)

A **valve** gear for an internal combustion **engine** having a sub-rocker **arm** return spring that is shortened in a longitudinal length of a **cylinder**. The **valve** gear for the internal combustion **engine** is provided with a **camshaft**, an intake cam turning integrally with the **camshaft**, a **valve** cam for opening and closing an **engine valve**, a link mechanism for transmitting a **valve** driving force to the **valve** cam, a holder for supporting a sub-rocker **arm** support and a driving mechanism for varying a fulcrum position of the link mechanism. A **valve** operating characteristic can be varied with an oscillating position of the sub-rocker **arm** support. A sub-rocker **arm** is provided with a roller, an eccentrically disposed step and a link section. The step is provided with a spring socket, and a return spring is arranged intervening between the spring socket and the holder.

Inventors

CHO MASAKI

SATO TOSHIYUKI

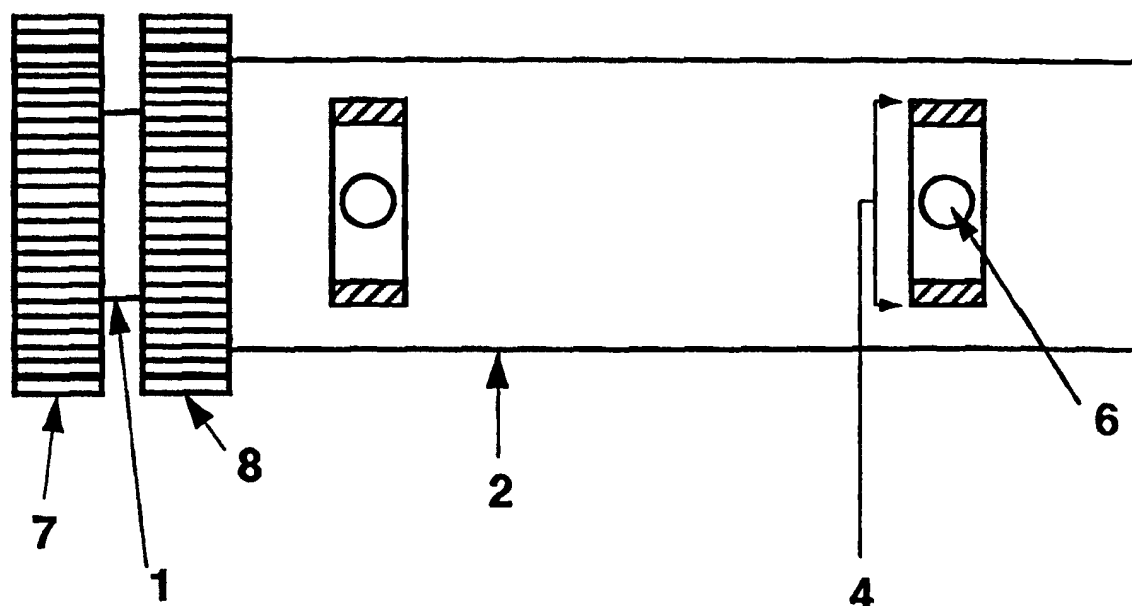
IMAFUKU TAKAHIRO

Latest standardized assignees - inventors removedHONDA **MOTOR**

Family 6/10 - FAMPAT - ©Questel

Title

(WO9518917)

Variable timing **camshaft** with variable **valve** list**Images****Publication data including kind & date**

WO9518917	A1	1995-07-13	WO9518917
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AU1376495	A	1995-08-01	AU9513764
GB9614003	D0	1996-09-04	GB9614003
GB2301396	A	1996-12-04	GB2301396
DE19581459	T1	1997-02-27	DE19581459T
GB2301396	B	1998-05-06	GB2301396



Abstract

(WO9518917)

A variable timing **camshaft** has concentric shafts for mechanically varying the **valve** timing of internal combustion engines and motors and air compressors and motors. By altering the rotational position of the cam lobes attached to each **shaft** (1, 2) relative to each other, the **valve** timing can be varied. This may be achieved by periodically changing the length of a timing chain or belt on one side of sprockets (7, 8). Alternatively, it may be achieved by a series of interconnected cogs which effectively rotate one **shaft** (1, 2) with respect to the other. The degree of **valve** lift may also be varied. Inverted cam lobes may act via pivoted rocker **arms** to open and close the valves. A cam follower spring maintains the tension which is kept to a minimum by means of a spring tensioning device, hydraulic piston lifter or air **valve**. Alternatively, the relative height of the rocker **arm** pivot **shaft** or **camshaft** can be varied.

Inventors

MADDEN STEPHEN KEITH

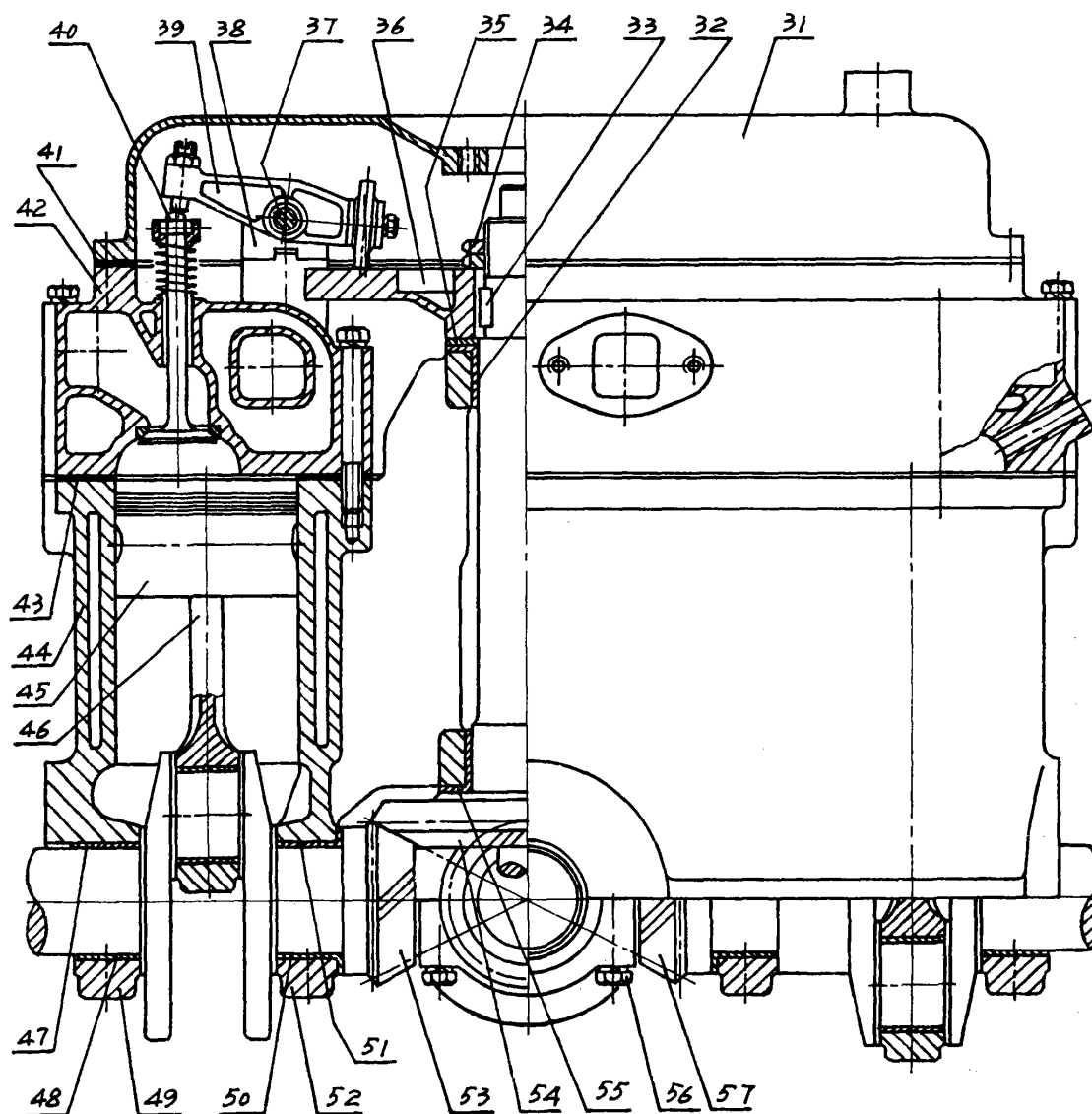
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Title

(CN103321682)

Internal combustion **engine** with cylinders in annular arrangement

Images



Publication data including kind & date

CN103321682	A	2013-09-25	CN103321682
CN103321682	B	2015-08-12	CN103321682B



Abstract

(CN103321682B)

The invention discloses an internal combustion **engine** with cylinders in annular arrangement in order to solve the problems that an existing piston-type internal combustion **engine** is only provided with two power output **shaft** ends and needs arrangement of intake and exhaust manifolds, **camshaft** mechanisms, **camshaft** transmission mechanisms, **camshaft** transmission tensioning devices (overhead camshafts in chain transmission or belt transmission), oil pump transmission mechanisms, distributor assembly transmission mechanism (of a spark ignition type) and the like. A scheme I includes that the cylinders are in single-annular arrangement and in a vertical structure, a bevel gear crankshaft corresponding to each **cylinder** is meshed with a bevel gear center **shaft**, a double-raceway convex plate is mounted at the upper ends of the bevel gear center shafts, and arc-shaped convex raceways on the convex plate control on and off of intake and exhaust valves through roller-type intake and exhaust rocker **arms** in rotation. The differences of a scheme II from the scheme I are that the cylinders are in double-annular arrangement, and the convex plate is provided with four raceways. The difference of a scheme III from the scheme II is that the cylinders in double-annular arrangement are in a V-type structure. The differences of a scheme IV from the scheme I are that the convex plate is in a single-raceway type, and only exhaust valves are provided. By the internal combustion **engine**, the structure of a piston-type internal combustion **engine** is simplified greatly.

Inventors

TANG RENZHONG

Publication data including kind & date

JP2008095620

A 2008-04-24 JP2008095620

**Abstract**

(JP2008095620)

PROBLEM TO BE SOLVED: To provide a variable valve gear for an internal combustion engine capable of avoiding variation in deviation of valve characteristics of an engine valve from a correct state among cylinders when a control shaft is thermally expanded in the axial direction.

SOLUTION: A collar 55 is interposed between an input arm 17 and an output arm 18 in a valve lift variable mechanism 14 of the respective cylinders, and the collar 55 is relatively movable in the axial direction of the control shaft 16 with respect to a vertical wall part 45. When the control shaft 16 is thermally expanded in the axial direction and a slider is displaced in the axial direction, the input arm 17 and the output arm 18 engaged with the slider are also displaced in the axial direction. Therefore, a relative position of the slider and the input arm 17 and the output arm 18 in the cylinders in the axial direction is not varied during thermal expansion, and deviation of the valve characteristics of an intake valve from the correct state caused by variation of the relative position can be prevented.

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Inventors

YUASA TAKAO

KOSHIMIZU TAKAHIDE

MIYASATO YOSHIAKI

Latest standardized assignees - inventors removed

TOYOTA MOTOR

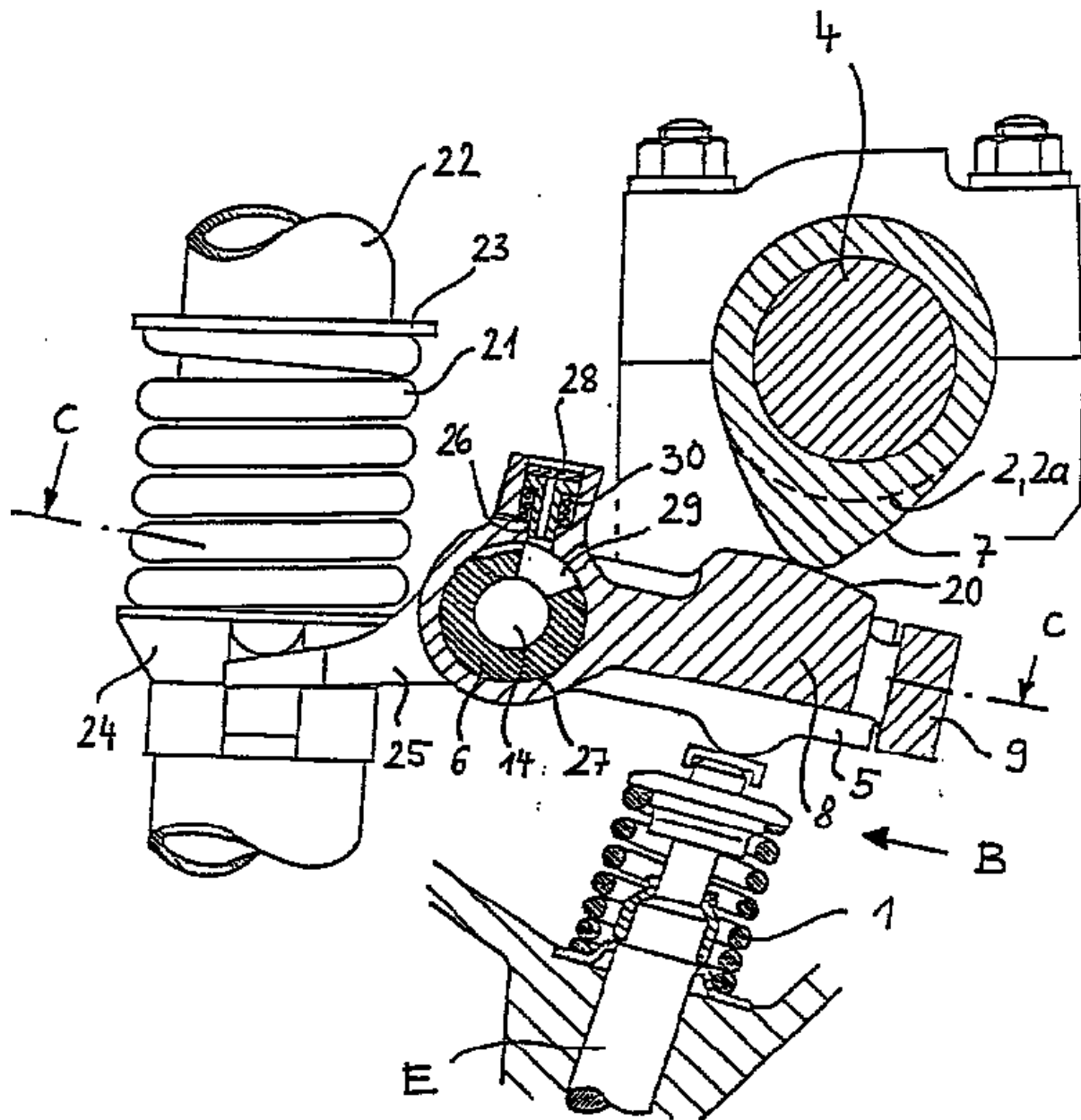
Family 9/10 - FAMPAT - ©Questel

Title

(DE19643711)

Valve operating gear for internal combustion engine

Images



Publication data including kind & date

DE19643711

A1 1998-04-30

DE19643711



Abstract

(DE19643711)

The first cam (2) of the **valve** gear is a base circle cam with a zero lift profile. The corresponding **valve** (E) is permanently closed in the first operating state, with the rocker lever not connected and the **cylinder** disengaged. When the **valve**-gear is in its second position, the **valve** is cyclically operated by the second cam (7). The coupling pin of the coupling mechanism connected to the rocker lever is shifted by oil under pressure from its coupling position into its open position, and pressure medium moves a locking component from its open position into its locked position.

Inventors

PAUL MICHAEL DIPL ING

Latest standardized assignees - inventors removed

AUDI

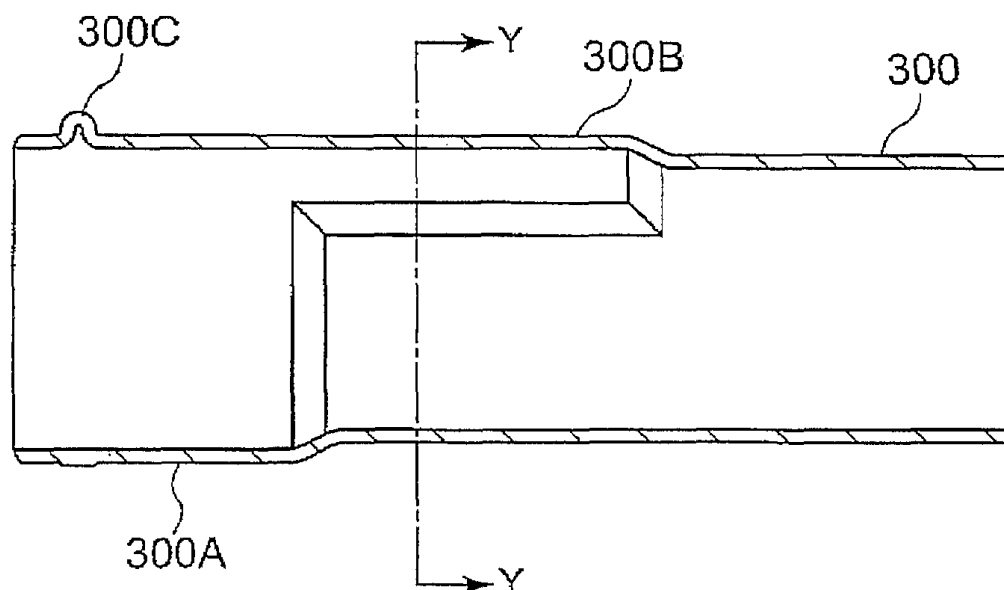
Family 10/10 - FAMPAT - ©Questel

Title

(US8448620)

Ignition device attachment structure for internal combustion **engine**

Images



Publication data including kind & date

US20110061624	A1	2011-03-17	US20110061624
ITTO20100733	A1	2011-03-17	IT2010TO0733
DE102010040653	A1	2011-03-24	DE102010040653
JP2011064115	A	2011-03-31	JP2011064115
US8448620	B2	2013-05-28	US8448620
IT1400901	B1	2013-07-02	IT1400901
JP5315185	B2	2013-10-16	JP5315185
DE102010040653	B4	2014-07-10	DE102010040653



Abstract

(US8448620)

An ignition device attachment structure for an internal combustion **engine** includes an ignition plug tube inserted between a **cylinder** head cover and an ignition device insertion hole formed in a **cylinder** head of the internal combustion **engine**. The ignition plug tube bulges from an upper end of the ignition plug tube to an intermediate portion of the ignition plug tube on a lateral surface of the ignition plug tube.

Inventors

TERADA KOJI

KISAICHI TORU

KAWAKUBO SHINSUKE

Latest standardized assignees - inventors removed

HONDA **MOTOR**