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(71) Applicant and

(72) Inventor: **SPRINGER, Joseph, E.** [US/US]; 11247
Monte Vista, Montclair, CA 91763 (US).

(74) Agent: **BROCK, Joe, A., II**; 10788 Civic Center Drive,
Suite 215, Rancho Cucamonga, CA 91730 (US).

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[Continued on next page]

(54) Title: INTERNAL COMBUSTION ENGINE TWIN POWER UNIT HAVING AN OSCILLATING CYLINDER

(57) Abstract: An invention is provided for an internal combustion engine twin power unit. The invention includes a crossover passage fluidly connecting a first cylinder to a second cylinder such that an air-fuel mixture introduced in the first cylinder is transferred to the second cylinder via the crossover passage, and wherein an ignition in any cylinder causes combustion of the air-fuel mixture in both cylinders via the crossover passage. Also included is a rod assembly, which is connected to the first piston and the second piston which are disposed in the cylinders. The rod assembly rigidly fixes the first piston and the second piston in a fixed spatial relation to each other. In addition, an intake port is included that is in fluid communication with both the first cylinder and the second cylinder. To control air passage within the intake port, a one-way valve is included. In this manner, air drawn into the first cylinder and the second cylinder via the intake port below the first piston and the second piston is prevented from escaping either cylinder via the intake port during downward motion of the first piston and the second piston. In addition, air compressed below the pistons during downward motion of the pistons escapes into the first cylinder above the first piston via the intake charge passage when the first piston clears an area of the intake charge passage, purging combustion exhaust gases from both cylinders.

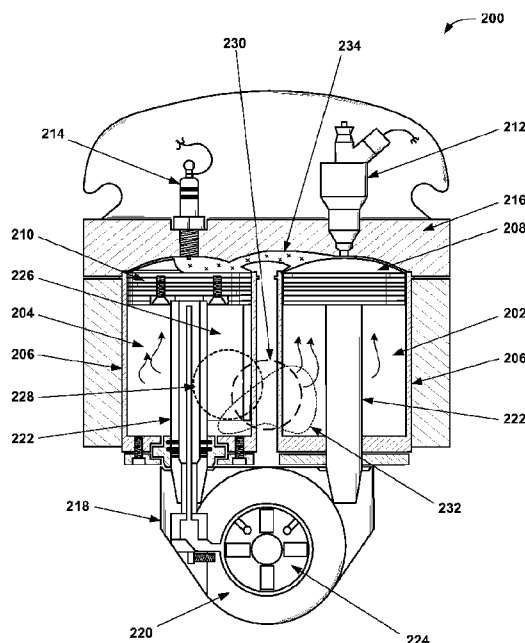


FIG. 2

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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/087787**A. CLASSIFICATION OF SUBJECT MATTER*****F02B 75/28(2006.01)i, F02B 75/32(2006.01)i, F02B 75/40(2006.01)i, F01L 1/18(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: F02B, F01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility model since 1975

Japanese utility models and applications for utility model since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & Keywords : "twin", "cylinder", "crossover", "passage", "rod"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6941914 B2 (SNYDER, D. D. et al.) 13 September 2005 See claims 1-23 and figures 1-28	1-19
A	US 6732694 B2 (HOLWEG, C.) 11 May 2004 See claims 1-10 and figures 1-5	1-19
A	JP 2002-349384 A (KAWASAKI HEAVY IND. LTD.) 4 December 2002 See claims 1-7 and figures 1-8	1-19
A	US 5535715 A (MOUTON, W. J.) 16 July 1996 See claims 1-9 and figures 1-20	1-19

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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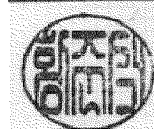
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HWANG, Joon Seok

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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