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(54) **Piston guided by counter rotating connecting rods and cranks**

(57) The object of this invention is to improve the characteristics of the normal crank mechanism that is universally adopted on the internal combustion engines and reciprocating compressors to transform the reciprocating motion of the piston into the rotational motion of the crankshaft.

As the piston is contemporaneously constrained by two connecting rods, which are constrained by two counter rotating cranks, it is possible to eliminate the friction between the piston and the cylinder, reducing moreover the dimension of the crank mechanism and increasing the stroke value in function of the crank radius.

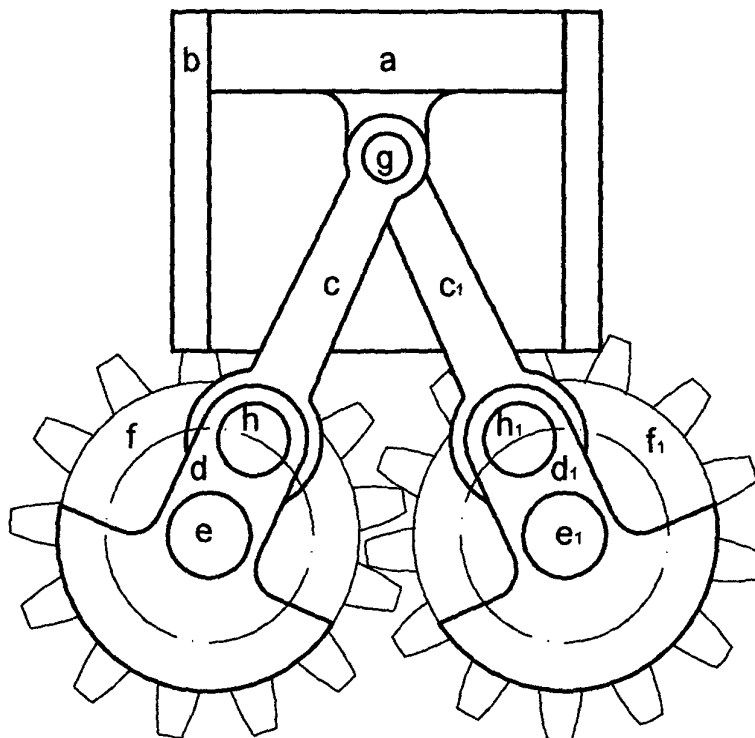


Fig. 1



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 006, no. 172 (M-154), 7 September 1982 (1982-09-07) & JP 57 083634 A (TAGA KIICHI), 25 May 1982 (1982-05-25) * abstract * * figure 1 *	1-6	F02B75/06 F02B75/32
X	----- PATENT ABSTRACTS OF JAPAN vol. 011, no. 010 (M-552), 10 January 1987 (1987-01-10) & JP 61 187537 A (HONDA MOTOR CO LTD), 21 August 1986 (1986-08-21) * abstract; figures 2,3 *	1-6	
X	----- FR 2 487 427 A (ESCOFFIE GARCIA GUILLERMO) 29 January 1982 (1982-01-29) * claim 1 * * figures 1,2 *	1-5	
X	----- DE 100 55 693 A1 (BADORREK, WERNER) 8 May 2002 (2002-05-08) * abstract * * figure 1 *	1-5	TECHNICAL FIELDS SEARCHED (Int.Cl.7) F02B
A	----- US 5 179 921 A (FIGLIUZZI ET AL) 19 January 1993 (1993-01-19) * column 3, line 10 - line 17 * * figures 1-3 *	1	
The present search report has been drawn up for all claims			
5	Place of search The Hague	Date of completion of the search 11 February 2005	Examiner Matray, J-F
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	

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

EP 04 42 5673

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.

11-02-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 57083634	A	25-05-1982	NONE	

JP 61187537	A	21-08-1986	NONE	

FR 2487427	A	29-01-1982	MX 153163 A	12-08-1986
			DE 3129028 A1	08-04-1982
			FR 2487427 A1	29-01-1982
			JP 57041429 A	08-03-1982

DE 10055693	A1	08-05-2002	NONE	

US 5179921	A	19-01-1993	NONE	
