

(21) Application No: 0723761.3  
(22) Date of Filing: 04.12.2007

(51) INT CL: F02B 41/00 (2006.01) F02B 47/02 (2006.01)  
F02G 5/00 (2006.01)

(71) Applicant(s): Ronald Aspden  
18 Mill Street, COLCHESTER, Essex,  
C01 2AH, United Kingdom

(56) Documents Cited: GB 2059501 A GB 0599446 A  
WO 2007/118435 A JP 580053668 A  
JP 2001012310 A US 5261238 A  
US 5012772 A US 4417447 A  
US 4301655 A US 0865213 A

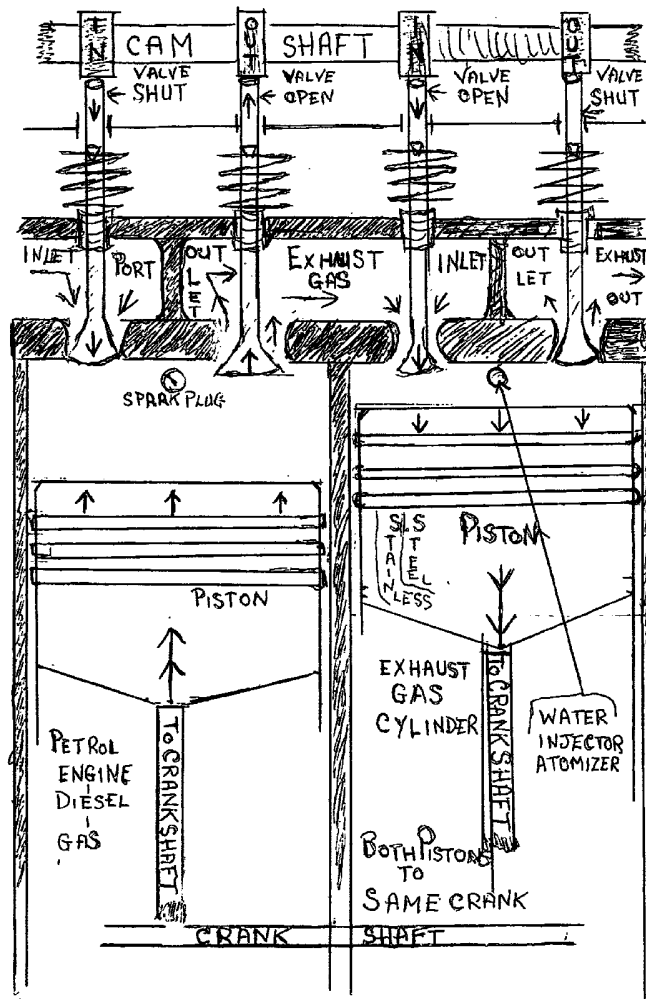
(72) Inventor(s): Ronald Aspden

(58) Field of Search: INT CL F02B, F02G, F02M  
Other: EPODOC, WPI

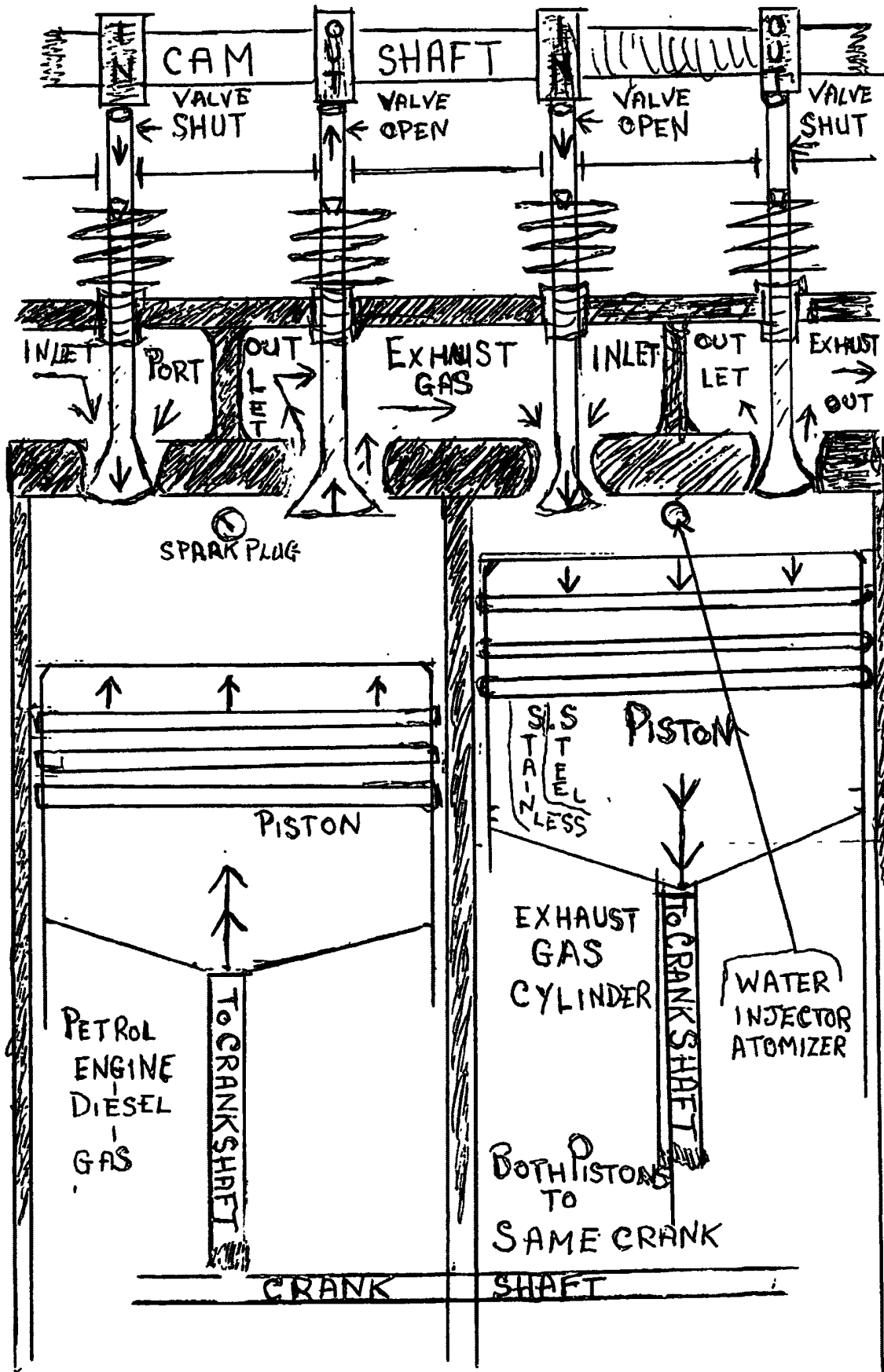
(74) Agent and/or Address for Service: Ronald Aspden  
18 Mill Street, COLCHESTER, Essex,  
C01 2AH, United Kingdom

(54) Abstract Title: I.c. engine with water injection to generate steam

(57) An internal combustion engine has a piston connected to a crankshaft. At just after top dead centre a calculated amount of distilled water is injected through an atomizer by a high pressure pump into the compressed high temperature exhaust gas. The atomized water flashes to high pressure steam forcing the piston down and turning the crankshaft.



# EXHAUST GAS CYLINDER ENGINE PARTS



2455500

**Description.**

**Exhaust Cylinder Engine RA06**

**A cylinder which contains the hot exhaust gas from any internal combustion engine, with a piston connected to a crank shaft. It compresses the hot gas to the top of the cylinder increasing the temperature. At just over top dead center a calculated amount of distilled water is injected through an atomizer by a high pressure pump into the compressed high temperature exhaust gas. The atomized water flashes to high pressure steam forcing the piston down turning the crank shaft.**

**Claims**

1. **An exhaust cylinder engine RA06**
2. **Compressing exhaust gas into high temperature gas**
3. **Turning exhaust gas into energy**
4. **Using the energy to turn the crank shaft**

**AMENDMENTS TO THE CLAIMS HAVE BEEN FILED AS FOLLOWS:-**

**Claims**

1. **A device that would improve the efficiency of any internal combustion engine**
2. **A device that when fitted to any internal combustion engine would reduce carbon emissions**
3. **A device that when fitted to any internal combustion engine would help to reduce global warming.**
4. **There are no such devices as mine fitted to any internal combustion engine.**

- 4 -

**Application No:** GB0723761.3

**Examiner:** John Twin

**Claims searched:** -

**Date of search:** 16 April 2008

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	-	GB 2059501 A (Goodridge)
X	-	US 5012772 A (Nakamura)
X	-	US 5261238 A (Olsen)
X	-	JP 2001012310 A (Kurachi) - see eg the EPODOC abstract and drawing
X	-	US 4301655 A (Luther)
X	-	WO 2007/118435 A
X	-	JP 58053668 A (Motoyama) - see eg the EPODOC abstract and drawings
X	-	US 865213 A (Schaeffers) - see eg page 3, lines 6-16
X	-	US 4417447 A (Luther)
X	-	GB 599446 A (Robson)

**Categories:**

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if	P	Document published on or after the declared priority date but

-5-

combined with one or more other documents of same category.	before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>X</sup> :

Worldwide search of patent documents classified in the following areas of the IPC

F02B; F02G; F02M

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

**International Classification:**

Subclass	Subgroup	Valid From
F02B	0041/00	01/01/2006
F02B	0047/02	01/01/2006
F02G	0005/00	01/01/2006