

Title (en)

A RECIPROCATING INTERNAL COMBINATION ENGINE INCLUDING A SEPARATE GAS CHAMBER

Publication

EP 0513868 A3 19930616 (EN)

Application

EP 92113454 A 19861023

Priority

- GB 8526129 A 19851023
- GB 8527317 A 19851106

Abstract (en)

[origin: EP0513868A2] This invention relates to a fluid pump driven by either a two cycle internal combustion engine or a four cycle internal combustion engine. In the fluid pump and two cycle internal combustion engine combination the combination comprises a block including an upper cylinder portion having a first diameter, and including a lower cylinder portion having a second diameter, the second diameter being larger than the first diameter, a bi-diameter piston including an upper piston portion received in said upper cylinder portion, and including a lower piston portion received in said lower cylinder portion, a crankcase connected to said block adjacent to said lower cylinder portion, said crankcase, said lower cylinder portion, and said lower piston portion defining a crankcase chamber, an upper engine chamber defined by said upper cylinder portion and said upper piston portion, an ignition means for igniting gas/air mixture in said upper engine chamber, one-way gas/air inlet means for admitting a gas/air mixture into said crankcase chamber, piston outlet means, located in said upper piston portion, for permitting the gas/air mixture in said crankcase chamber to exit from said crankcase chamber, gas/air mixture channel means for receiving gas/air mixture through said piston outlet means from said crankcase chamber and for channeling the gas/air mixture to said upper engine chamber, channel port means for permitting gas/air mixture from said channel means to enter said upper engine chamber, exhaust port means for exhausting combusted gas/air mixture from said upper engine chamber, a ring-like pumping chamber defined by said bi-diameter piston and said block, said pumping chamber being circumferential with respect to said upper piston portion, one-way inlet means joined to said lower cylinder portion for admitting fluid to be pumped into said pumping chamber, one-way outlet means joined to said lower cylinder portion for discharging pumped fluid from said pumping chamber.

IPC 1-7

F02B 63/06; F02B 33/04

IPC 8 full level

F02B 19/00 (2006.01); **F02B 33/04** (2006.01); **F02B 33/08** (2006.01); **F02B 33/14** (2006.01); **F02B 63/04** (2006.01); **F02B 63/06** (2006.01); **F02B 75/02** (2006.01)

CPC (source: EP)

F02B 33/04 (2013.01); **F02B 33/08** (2013.01); **F02B 33/14** (2013.01); **F02B 63/04** (2013.01); **F02B 63/06** (2013.01); **F02B 2075/025** (2013.01); **F02B 2075/027** (2013.01)

Citation (search report)

- [Y] US 4481909 A 19841113 - TAKADA TOSHIYUKI [JP], et al
- [Y] FR 644843 A 19281015
- [Y] FR 2386684 A1 19781103 - CHRYSLER FRANCE [FR]
- [X] DE 2901815 A1 19800731 - FICHTEL & SACHS AG
- [X] FR 569117 A 19240407
- [A] DE 2743780 A1 19790412 - FICHTEL & SACHS AG
- [A] DE 2847731 A1 19800514 - FICHTEL & SACHS AG
- [A] DE 3201875 A1 19830804 - ZIMMERMANN WOLFGANG

Designated contracting state (EPC)

AT BE CH DE ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0513868 A2 19921119; EP 0513868 A3 19930616; AT E86004 T1 19930315; AU 606316 B2 19910207; AU 6431786 A 19870430; CA 1333869 C 19950110; DE 3687821 D1 19930401; DE 3687821 T2 19930617; EP 0223435 A1 19870527; EP 0223435 B1 19930224; ES 2037662 T3 19930701; IN 172321 B 19930612

DOCDB simple family (application)

EP 92113454 A 19861023; AT 86308255 T 19861023; AU 6431786 A 19861023; CA 521022 A 19861021; DE 3687821 T 19861023; EP 86308255 A 19861023; ES 86308255 T 19861023; IN 934DE1986 A 19861022