

Title (en)
APPARATUS FOR SELECTIVELY INJECTING DIESEL OIL AND IGNITING FUEL INTO THE COMBUSTION CHAMBER OF A RECIPROCATING INTERNAL-COMBUSTION ENGINE USING AS MAIN FUEL DIESEL OIL OR GAS

Publication
EP 0235569 B1 19910220 (DE)

Application
EP 87101144 A 19870128

Priority
CH 56286 A 19860212

Abstract (en)
[origin: US4754733A] The fuel injection valve has a central aperture for the injection of diesel oil into a combustion chamber as well as additional apertures above the central aperture for selective injection of diesel oil. The valve is controlled so that a needle valve opens only the central aperture when diesel oil is to be injected as an ignition fuel during gas operation. The needle valve is moved a greater distance to open all the apertures when diesel operation occurs.

IPC 1-7
F02M 43/00; **F02M 45/08**; **F02M 47/02**

IPC 8 full level
F02D 19/06 (2006.01); **F02M 21/02** (2006.01); **F02M 25/00** (2006.01); **F02M 43/00** (2006.01); **F02M 43/02** (2006.01); **F02M 43/04** (2006.01); **F02M 45/08** (2006.01); **F02M 47/02** (2006.01); **F02M 61/14** (2006.01); **F02M 61/18** (2006.01); **F02B 3/06** (2006.01); **F02B 75/02** (2006.01)

CPC (source: EP US)
F02M 43/00 (2013.01 - EP US); **F02M 45/08** (2013.01 - EP US); **F02M 47/02** (2013.01 - EP US); **F02B 3/06** (2013.01 - EP US); **F02B 2075/025** (2013.01 - EP US)

Cited by
EP1936142A1; AT511075A4; AT511075B1

Designated contracting state (EPC)
DE FR GB IT NL

DOCDB simple family (publication)
EP 0235569 A2 19870909; **EP 0235569 A3 19881102**; **EP 0235569 B1 19910220**; CH 669015 A5 19890215; DE 3768031 D1 19910328; JP 2706447 B2 19980128; JP S62191659 A 19870822; US 4754733 A 19880705

DOCDB simple family (application)
EP 87101144 A 19870128; CH 56286 A 19860212; DE 3768031 T 19870128; JP 2946887 A 19870210; US 1120187 A 19870204