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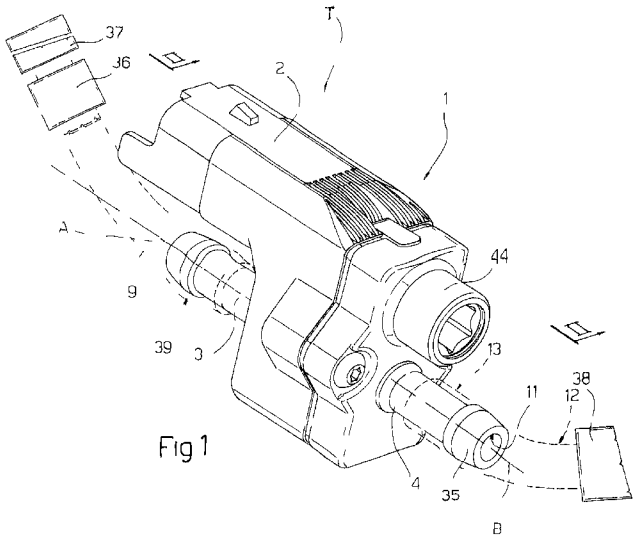



Fig 1

(57) **Abstract:** A system (T) for feeding gas fuel to an internal combustion engine, having : a fuel tank (37); fluidic connecting means (9, 12) along which fuel flows, and interposed fluidically between the tank (37) and a cylinder (38) of the engine; and an electro-injector (1) fluidically in series with respect to the fluidic connecting means (9, 12), and which is interposed between the tank (37) and the cylinder (38), and is activated selectively to disable or enable fuel flow to the cylinder (38); the electro- injector (1) is positioned with respect to the fluidic connecting means (9, 12) solely by connecting at least an inlet or outlet (3, 4) of the electro-injector to at least one pipe (9, 12) defined by the fluidic connecting means (9, 12).

WO 2008/068578 A3

# INTERNATIONAL SEARCH REPORT

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A CLASSIFICATION OF SUBJECT MATTER
INV. F02M21/02

According Io International Patent Classlficaiior <IPC) orlo bolh nallonai classification and IPC

B FIELDS SEARCHED

Minimum documenlalion searched (classification system followed by classification symbols)
F02M F16K

Documentation searched olher than minimum documentation Io the extent that such documents are included in ihe fields searched

Elecironlc data bass consulted during the international search (name of data tas β and where practical ᶜearch lerms used)
EPO-Internal , PAJ

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[X] Further d jcuments are listed in the coniinualion of Box C

[X] See patenl family annex

* Special categories of cited documents

#Af document defining the general slate ol lhe art which is nol considered to ᴰe of particular relevance

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 16 June 2008 | 05/08/2008 |

| Name and mailing address of lhe ISA/ | Authorized officer |
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International application No
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# INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2007/003706

**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This internailonal search report has πol been established In respect of certain claims under AdIcIe 17(2)(a) for the following reasons

1 ☐ Claims Nos
Because they relate to subject matter not required to be searched by this Authority namely

2 **D** Clalmε Nos
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out specifically

3 ☐ Claims Nos
because they are dependent claims and are not drafted in accordance with the second and **third** sentences of Rule 6 4(a)

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This international Searching Authority found multiple imentions in this international application, as follows

see additional sheet

1 ☐ As all required additional search fees were timely paid by the applicant, this international search report ccvers ailsearchable claims

2 ☒ As all searchable claims could be searched without effort justifying an additional fees this Authority did not invite payment of additional fees

3 ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically c aims Nos

4 ☐ No required additional search tees were timely paid by the applicant Consequently this international search report is restricted to the Invention first mentioned in the claims, It Is covered by claims Nos

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest and where applicable, the pa/ment of a protest fee

☐ Ths additional search fees were accompanied by the appl cant's protest but the applicable protest fee was not paid within the time limit specified in the Invitation

☐ No protest accompanied the payment of additional search fees

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4

A system (T) for feeding gas fuel to an internal combustion engine, comprising:
- a tank (37) of said fuel;
- fluidic connecting means (9, 12) along which said fuel flows, and interposed fluidically between said tank (37) and a cylinder (38) of said engine; and
- an electro-injector (1) fluidically in series with respect to said fluidic connecting means (9, 12). and which is interposed between said tank (37) and said cylinder (38), and is activated selectively to disable or enable flow of said fuel to the cylinder (38); ;
characterized in that said electro-injector (1) is positioned with respect to said fluidic connecting means (9, 12) solely by connecting at least an inlet or outlet (3, 4) of the electro-injector to at least one pipe (9, 12) defined by said fluidic connecting means (9, 12).

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2. claims: 5-9

An electro-injector (1) for a system for feeding gas fuel to an internal combustion engine, comprising:
- a casing (2) defining at least one inlet (3) and one outlet (4); said fuel flowing through said inlet (3) before said outlet (4) ; and said fuel flowing selectively through said outlet (4) , which is connectable fluidically to a cyl inder (38) of said engine;
characterized 1n that said I nlet (3) and said outlet (4) have respecti ve axes (A, B) paral lel t o each other.

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3. cl aims : 10-12

FURTHER IMFORMATION CONTINUED FROM PCT/ISA/ 210

An electro-injector for a system for feeding gas fuel to an internal combustion engine, comprising:
- a casing (2) defining at least one outlet (4) through which said fuel flows selectively, and which is connectable fluidically to a cylinder (38) of said engine;
- an armature (5) housed in said casing (2) and comprising a shutter (28); said armature (5) being loaded by elastic means (30) into a first configuration, in which said shutter (28) engages said outlet (4), at the opposite end to: said end portion (13). to prevent flow of said fuel to said cylinder (38);
said armature (5) being movable, by actuating means (6) and in opposition to said elastic means (30), from said first configuration to a second configuration, in which said shutter (28) opens said outlet (4) to permit flow of. said fuel into said cylinder (38);
characterized in that the preload of said elastic means (30) is adjustable selectively to adjust the time taken by said armature (5) to move from said second configuration to said first configuration, once the action of said actuating means (6) ceases.

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International application No
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