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## EUROPEAN PATENT APPLICATION

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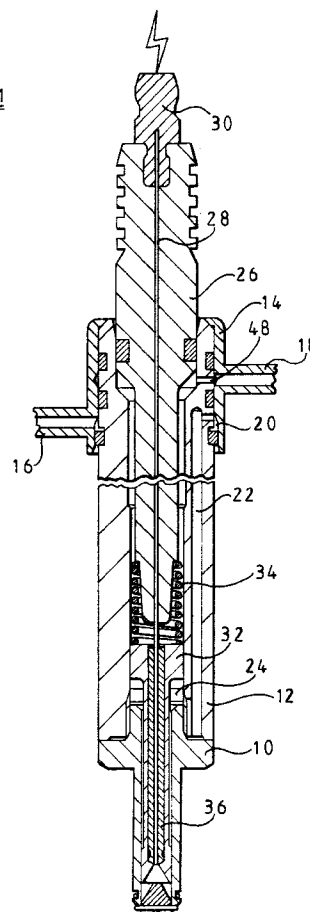
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### (54) Fuel injector

(57) A fuel injector comprises a nozzle defining a working chamber (38). Fuel is supplied to the working chamber (38) through an inlet, and an outlet is provided whereby fuel can escape from the working chamber (38). Electrodes (36, 40) are provided and arranged such that a voltage can be applied across the fuel within the working chamber (38). In one aspect of the invention, valve means (40, 42) controls fuel flow through the outlet.

FIG 1



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# EUROPEAN SEARCH REPORT

Application Number  
EP 98 30 0222

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.6)
X A	US 2 436 090 A (BODINE) 17 February 1948 * column 12, line 24 - column 13, line 23 * * column 16, line 19 - line 57 * * figures 6,12 * ---	1-5 6-9,12	F02M51/00
X A	US 2 617 080 A (NIMS) 4 November 1952 * column 1, line 41 - column 4, line 53 * * figures 1,2 * ---	1,2,6,8 3,5,10, 12	
X A	US 5 165 373 A (CHENG DAH Y) 24 November 1992 * column 4, line 3 - line 12 * * column 4, line 33 - line 36 * * figures 1,7,8,10 * ---	1,2,9,11 3,5,6,8	
A	GB 2 052 624 A (LUCAS INDUSTRIES LTD) 28 January 1981 * the whole document * ---	1,3,6	
X	US 3 822 678 A (BASSOT J ET AL) 9 July 1974 * figures 19-24,30 * * column 9, line 45 - column 10, line 23 * * column 11, line 59 - column 12, line 44 * * column 13, line 60 - column 14, line 28 * -----	9-12	TECHNICAL FIELDS SEARCHED (Int.Cl.6)  F02M F02D
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>24 June 1998</b>	Examiner <b>Lapeyronnie, P</b>
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			

EPO FORM 1503 03 82 (P04C01)



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Application Number

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#### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

#### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number  
EP 98 30 0222

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-8

Injector

2. Claims: 9-12

Electrical drive arrangement for a plurality of injectors