

12

# **EUROPEAN PATENT APPLICATION**

21 Application number: **89108969.0**

51 Int. Cl.<sup>5</sup>: **F02D 11/10**

22 Date of filing: **18.05.89**

30 Priority: **27.05.88 IT 5318388 U**

43 Date of publication of application:  
**29.11.89 Bulletin 89/48**

84 Designated Contracting States:  
**DE ES FR GB SE**

88 Date of deferred publication of the search report:  
**13.06.90 Bulletin 90/24**

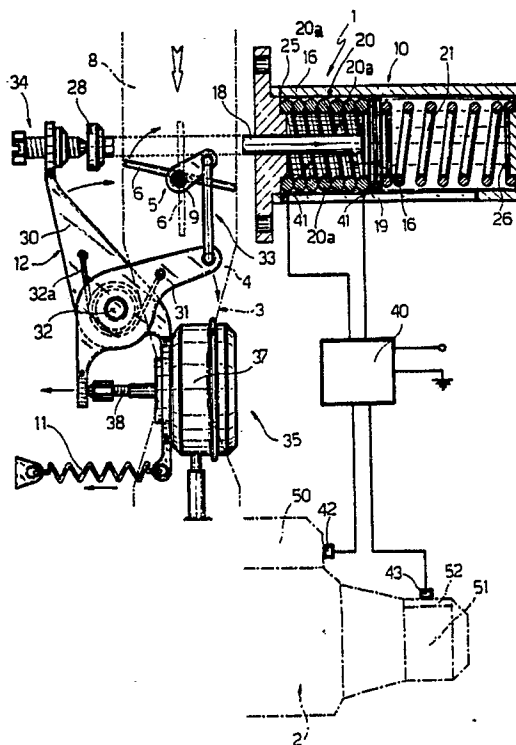
71 Applicant: **FIAT AUTO S.p.A.**  
**Corso Giovanni Agnelli 200**  
**I-10135 Torino(IT)**

72 Inventor: **Manfre', Giovanni**  
**Via Bardonecchia 11bis**  
**I-10048 Vinovo(IT)**  
Inventor: **Carnio, Andrea**  
**Via Brissogne 12**  
**I-10100 Torino(IT)**

74 Representative: **Boggio, Luigi et al**  
**STUDIO TORTA Società Semplice Via Viotti,**  
**9**  
**I-10121 Torino(IT)**

54 **Device for regulating the air input flow rate to an internal combustion engine carburettor.**

57 A device for regulating the air input flow rate to an internal combustion engine carburettor during cold-starting is described; the device consists of a butterfly valve disposed upstream of the carburettor diffuser, elastic opposition means, an actuator operated by the engine temperature increase, and mechanical transmission means connecting the actuator, the opposition means and the butterfly valve together in such a manner as to keep this latter normally closed when the engine is cold; the actuator incorporates a shape memory element (SME) arranged to selectively assume, as a function of the instantaneous engine temperature, a plurality of pre-determined shapes.



**EP 0 343 515 A3**



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.4)
Y	EP-A-0 029 789 (SOCIETE INDUSTRIELLE DE BREVETS ET D'ETUDES SIBE) * Page 1, line 22 - page 3, line 11; page 5, line 17 - page 8, line 24; figure 1 *	1-3,6,8	F 02 D 11/10
Y	PATENT ABSTRACTS OF JAPAN, vol. 6050 (M-120) 3rd March 1982; & JP-A-56 165 798 (HITACHI LTD) 19-12-1981	1-3,6,8	
P,A	PATENT ABSTRACTS OF JAPAN, vol. 13006 (M-781) 9th January 1989; & JP-A-63 215 844 (MIKUNI KOGYO CO. LTD.) 08-09-1988	4	
A	PATENT ABSTRACTS OF JAPAN, vol. 7, no. 81 (M-205)[1226] 5th April 1983; & JP-A-58 8254 (NIHON KIKAKI SEISAKUSHO K.K.) 18-01-83		
A	US-A-4 700 682 (OTA et al.)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			F 02 D F 02 M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28-02-1990	Examiner MOUALED R.
<b>CATEGORY OF CITED DOCUMENTS</b>			
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	