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(54) **Method and device for controlling the idle speed of an engine**

(57) A method and an apparatus for controlling the idle operating conditions of an internal-combustion engine of a motor vehicle, upon variation in the power drawn from the voltage generator (W4) by the electric circuit (L-BA). The running speed of the engine is detected by a logic control unit (ME), for example a microcontroller, in relation to the frequency of the generator voltage within a predefined running speed range; by the

same logic control unit (ME) the connected or disconnected state of the alternating-current electric load (L) of the vehicle is detected and, depending on the information received regarding the connected or disconnected state of the electric load (L) to the voltage generator (W4) and the running speed of the engine, the logic control unit (ME) causes activation or deactivation of an electronic control switch (SCR3 - figure 4) to connect the voltage generator (W4) to earth.

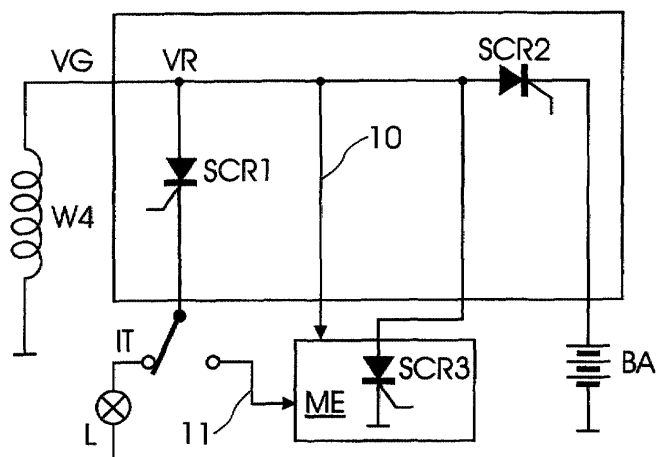


Fig. 1



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EUROPEAN SEARCH REPORT

Application Number
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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)
A	EP 0 684 381 A (DUCATI ENERGIA SPA) 29 November 1995 (1995-11-29) * abstract * * column 4, line 15 - column 5, line 1 * * column 6, line 5 - line 22 * * figure 3 * ---	1,6	F02D41/16 F02D41/08
A	DE 196 24 343 A (MANNESMANN VDO AG) 2 January 1998 (1998-01-02) * abstract * * claims * ---	1,6	
A	US 5 087 869 A (NAKAMURA YOZO ET AL) 11 February 1992 (1992-02-11) * abstract * -----	1,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			F02D F02B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 October 2001	Examiner Trotureau, D
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 10 7971

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15-10-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0684381 A	29-11-1995	IT 1270142 B	29-04-1997
		US 5630404 A	20-05-1997
		CN 1119702 A , B	03-04-1996
		EP 0684381 A2	29-11-1995
		JP 3050507 B2	12-06-2000
		JP 8066096 A	08-03-1996
DE 19624343 A	02-01-1998	DE 19624343 A1	02-01-1998
US 5087869 A	11-02-1992	JP 3222825 A	01-10-1991
		DE 4102076 A1	01-08-1991
		GB 2241842 A , B	11-09-1991

EPO FORM P0469

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