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EUROPEAN PATENT APPLICATION

21 Application number: **81830006.3**

51 Int. Cl.³: **F 02 N 17/06**

22 Date of filing: **19.01.81**

30 Priority: **21.01.80 IT 5285080 U**

43 Date of publication of application:
29.07.81 Bulletin 81/30

88 Date of deferred publication of search report: **05.08.81**

84 Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

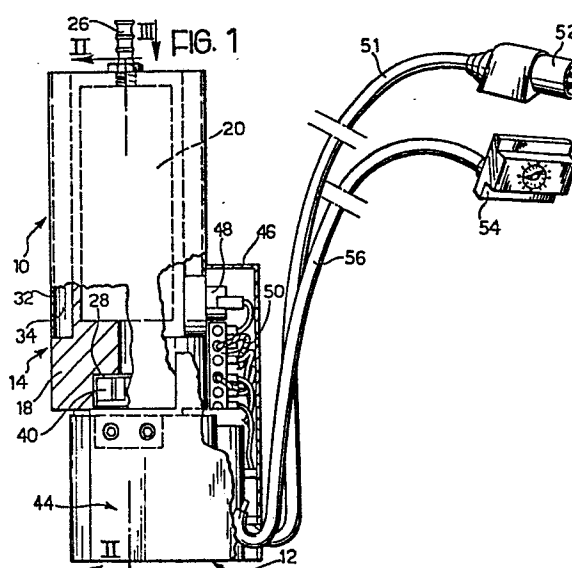
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54 A preheating device for preliminary heating the liquid of the cooling circuit of a motor-vehicle engine.

57 A preheating device for preliminary heating the liquid of the cooling circuit of a motor-vehicle engine comprising a heater (10) formed by a massive metallic cylindrical body (14) having an axial through cavity (20) adapted to be connected to the cooling circuit of the engine and two axial bores (22) each containing an armored heating resistor (24), an electric pump (12), and an electric feeding circuit (50, 51, 52, 54) for connecting the device to an electrical source disposed outside the motor-vehicle. The electric circuit comprises a switch controlled by a programmable timer (54).





European Patent
Office

EUROPEAN SEARCH REPORT

0032880

Application number

EP 81 83 0006

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<u>DE - A - 2 653 758 (EWERTZ)</u> * Page 2, lines 14-27; page 3, lines 4-18; figures *	1,2	F 02 N 17/06
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	<u>US - A - 3 979 574 (HAIG)</u> * Column 1, line 59 to column 2, line 48; figure 1 *	1	
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	<u>US - A - 3 970 247 (KEELING)</u> * Column 2, line 51 to column 3, line 25; figure 1 *	1,3	TECHNICAL FIELDS SEARCHED (Int. Cl.) F 02 N 17/06
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	<u>FR - A - 2 353 723 (ROGNON)</u> * Page 2, lines 11-53; figures; page 3, lines 4,5 *	1,3	
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	<u>US - A - 1 806 442 (BELL)</u> * Page 1, line 92 to page 2, line 47; figure 4 *	1,3	

			CATEGORY OF CITED DOCUMENTS
			X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			&: member of the same patent family, corresponding document
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
The Hague	04-05-1981	BIJN	