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(54) Electrical appliance with door provided with an electrically operated locking device

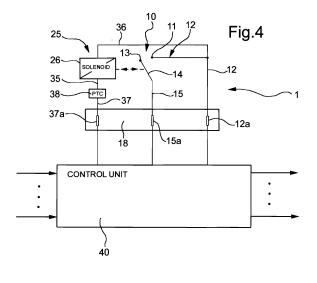
(57) The electrical appliance comprises a chamber closed by a door (P),

a locking device (1) including an operating solenoid (26) connected in series with a PTC resistor (38) between two electrical connecting terminals (12a, 27a), which, as the result of a first energizing and at least one subsequent energizing of the solenoid (26), is capable of assuming, respectively, a locking condition in which it retains the door (P) in the position which closes the chamber, and an unlocking condition in which it allows the door (P) to be opened; and

a control unit (40) connected to these electrical terminals

(12a, 37a) and capable of causing subsequent energizing of the said solenoid (26) by means of subsequent applications of voltage between the said terminals (12a, 37a).

The control unit (40) is designed to keep the energizing voltage (V) continuously applied to the said terminals (12a, 37a) after the first energizing or after each first energizing of the locking device (1) for a predetermined time (t_2 - t_1) in such a way that the resistance (R) of the PTC resistor (38) reaches and is kept at a value such that the current (I) flowing through the solenoid (26) is reduced to a minimum value and thus preventing the energizing of the solenoid.





EUROPEAN SEARCH REPORT

Application Number EP 07 10 0555

	DOCUMENTS CONSIDERED	TO BE RELEVANT			
Category	Citation of document with indicatio of relevant passages	n, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
Y,D	US 6 334 637 B1 (BITRON 1 January 2002 (2002-01 * the whole document *	SPA [IT]) -01)	1,2	INV. E05B47/00 D06F37/42 A47L15/00	
Υ	EP 0 439 849 A1 (ROCCHI 7 August 1991 (1991-08- * the whole document *		1,2	N47 L137 00	
Α	EP 1 467 048 A1 (BITRON 13 October 2004 (2004-1 * the whole document *	SPA [IT]) 0-13)	1,2		
				TECHNICAL FIELDS SEARCHED (IPC) E05B D06F	
	The present search report has been di	·			
Place of search		Date of completion of the search	Date	Examiner	
The Hague 18 Ma 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		E : earlier patent do after the filling da D : document cited i L : document cited f	T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document oited in the application L: document oited for other reasons &: member of the same patent family, corresponding		

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

EP 07 10 0555

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-03-2013

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 6334637	B1	01-01-2002	BR DE ES FR GB IT NZ US	9916914 A 19961083 A1 2188305 A1 2787490 A1 2344849 A 1303590 B1 501925 A 6334637 B1	02-10-20 21-06-20 16-06-20 23-06-20 21-06-20 14-11-20 30-03-20 01-01-20
EP 0439849	A1	07-08-1991	AT DE EP IT	152790 T 69030652 D1 0439849 A1 1236884 B	15-05-1 12-06-1 07-08-1 26-04-1
EP 1467048	A1	13-10-2004	EP ES	1467048 A1 2314308 T3	13-10-2 16-03-2

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 $\stackrel{\circ}{\mathbb{L}}$ For more details about this annex : see Official Journal of the European Patent Office, No. 12/82