



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 433 893 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
11.08.2004 Bulletin 2004/33

(51) Int Cl.7: **D06F 37/42**, D06F 39/14,
E05B 47/06, E05C 3/24

(43) Date of publication A2:
30.06.2004 Bulletin 2004/27

(21) Application number: **03029559.6**

(22) Date of filing: **22.12.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

(72) Inventor: **Promutico, Fabrizio**
03010 Alatri (Frosinone) (IT)

(74) Representative: **Quinterno, Giuseppe et al**
Jacobacci & Partners S.p.A.,
Corso Regio Parco, 27
10152 Torino (IT)

(30) Priority: **23.12.2002 IT TO20021112**

(71) Applicant: **BITRON S.p.A.**
10042 Nichelino (Torino) (IT)

(54) **A door lock device, particularly for domestic electrical appliances**

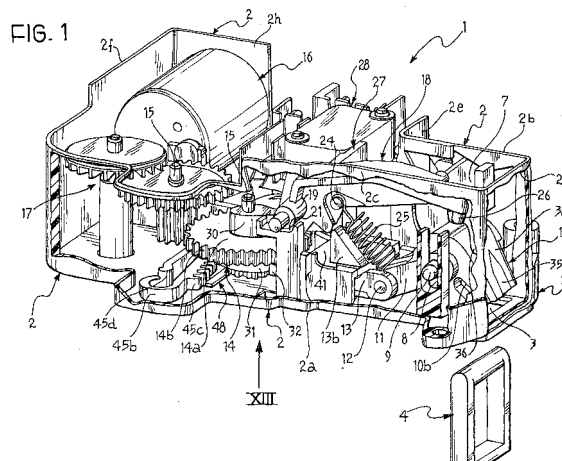
(57) The device comprises:

- a support structure (2) in which is defined an aperture (3) for the introduction in a predetermined direction of a door catch (4) connected to a door;
- a retainer member (10) movably mounted in the said structure (2) and having a seat (10) for receiving and retaining the door catch (4);
- a conditioning mechanism (11-13, 18, 25, 33) cooperating with the retainer member (10) and operable to assume

* a first condition in which it allows engagement of the door catch (4) with the retainer member (10) to retain the door in a closure position, and release of this coupling to allow opening of this door by application of a force on it; and

* a second condition in which the retainer member (10) is maintained in a locked position in which it is able to retain the door in a locked closure position; and

- a motorised control device (14-17) associated with the conditioning mechanism and electrically operable to cause passage of this mechanism from the first to the second condition and vice versa.



EP 1 433 893 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 02 9559

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.7)
X	DE 196 01 230 A (ZANGENSTEIN ELEKTRO) 17 July 1997 (1997-07-17)	1,2,10, 20	D06F37/42 D06F39/14
A	* the whole document *	3-9,11, 12	E05B47/06 E05C3/24
X	US 5 520 424 A (HAPKE KENYON A ET AL) 28 May 1996 (1996-05-28)	1,3,10, 20	
A	* the whole document *	2,4,5, 11,12	
X	US 4 082 078 A (THULEEN RICHARD A ET AL) 4 April 1978 (1978-04-04)	1,3,4, 10,20	
A	* the whole document *	2,5,11, 12	
X	EP 1 217 117 A (ZANGENSTEIN ELEKTRO) 26 June 2002 (2002-06-26)	1,10	
A	* column 5, paragraph 18 - column 6, paragraph 21 * * column 9, paragraph 34 - column 14, paragraph 56; figures 1A-1D *	2-6	
X	DE 44 26 611 A (BOSCH SIEMENS HAUSGERAETE) 1 February 1996 (1996-02-01)	1,3,4,20	D06F E05C A47L F24C E05B
A	* column 3, line 53 - column 7, line 67; figures *	10	
A	WO 01/81696 A (BITRON SPA ;PROMUTICO FABRIZIO (IT)) 1 November 2001 (2001-11-01)	1-3,5, 7-11	
A	WO 02/095171 A (SIEMENS AG ;WEIS CHRISTIAN (DE)) 28 November 2002 (2002-11-28)	1,4,20	
	* the whole document *		
-The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 March 2004	Examiner Falkentoft, C
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)



European Patent
Office

Application Number
EP 03 02 9559

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.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ 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:

1-12, 18-20



European Patent
Office

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 03 02 9559

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: 1-12, 18-20

1.1. claims: 1-3

A door lock with a closure condition, wherein the door is closed but can be opened, and a locked condition, wherein the door is closed and retained in a locked condition. A motorised control device being operable to cause passage from the one to the other condition and vice versa. The door being openable by a pushing or pulling force acting on it.

1.2. claims: 4, 20

A door lock controlled by a rotatable cam member coupled to an electrical drive motor.

1.3. claims: 5-9, 11, 12, 18, 19

A door lock with a rotatable and translatable retainer. The retainer cooperating with a slide member, an interconnection member, a stop lever and a resilient member so that the retainer is retained in a position wherein the door is closed, but may be disengaged.

1.4. claim: 10

A door lock with signalling means, signalling when the door is closed versus closed and locked.

2. claims: 13-17

A door lock with a release member associated to a motor controlled rotatable cam member.

3. claims: 21, 23

A door lock operated by a rotatable cam member associated with a feeler member. The feeler member being in turn associated with a movable and at least two fixed contact members for signalling closed or locked condition of the door.

4. claims: 22, 24



European Patent
Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 03 02 9559

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:

A door lock with electrical energy detector means and motorised control. The motorised control being associated with the detector means to pass the door lock to its openable condition upon detection of an electricity failure.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

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

EP 03 02 9559

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.

25-03-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 19601230	A	17-07-1997	DE 19601230 A1	17-07-1997
US 5520424	A	28-05-1996	WO 9623947 A1	08-08-1996
US 4082078	A	04-04-1978	AU 500116 B2	10-05-1979
			AU 2442577 A	26-10-1978
			CA 1081297 A1	08-07-1980
			DE 2717424 A1	13-04-1978
			DE 7712348 U1	10-11-1977
			FR 2367252 A1	05-05-1978
			GB 1584052 A	04-02-1981
EP 1217117	A	26-06-2002	EP 1217117 A1	26-06-2002
			US 2002101313 A1	01-08-2002
DE 4426611	A	01-02-1996	DE 4426611 A1	01-02-1996
WO 0181696	A	01-11-2001	IT T020000383 A1	22-10-2001
			AU 5042601 A	07-11-2001
			WO 0181696 A1	01-11-2001
			EP 1276947 A1	22-01-2003
			US 2003160461 A1	28-08-2003
WO 02095171	A	28-11-2002	DE 10125093 A1	12-12-2002
			WO 02095171 A1	28-11-2002
			EP 1389254 A1	18-02-2004
			US 2004099077 A1	27-05-2004

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82