



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**19.09.2001 Bulletin 2001/38**

(51) Int Cl.7: **D06F 39/14**

(43) Date of publication A2:  
**09.05.2001 Bulletin 2001/19**

(21) Application number: **00124080.3**

(22) Date of filing: **06.11.2000**

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

(72) Inventors:  
• **Gherardi, Eros  
Bologna (IT)**  
• **Ghidini, Teresa  
Bologna (IT)**  
• **Degli Esposti, Er.es  
Bologna (IT)**

(30) Priority: **08.11.1999 IT BO990600**

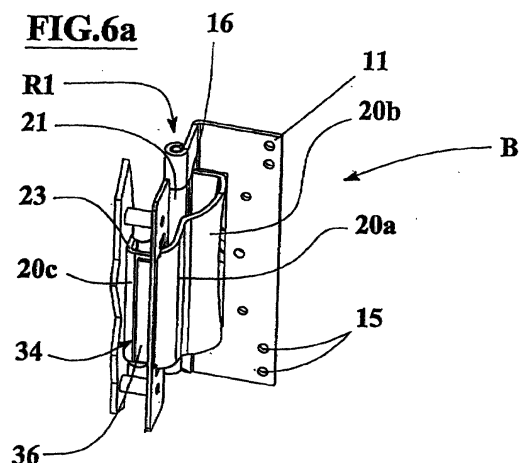
(74) Representative: **Negrini, Elena  
Agazzani & Associati S.r.l.  
Via dell'Angelo Custode 11/6  
40141 Bologna (IT)**

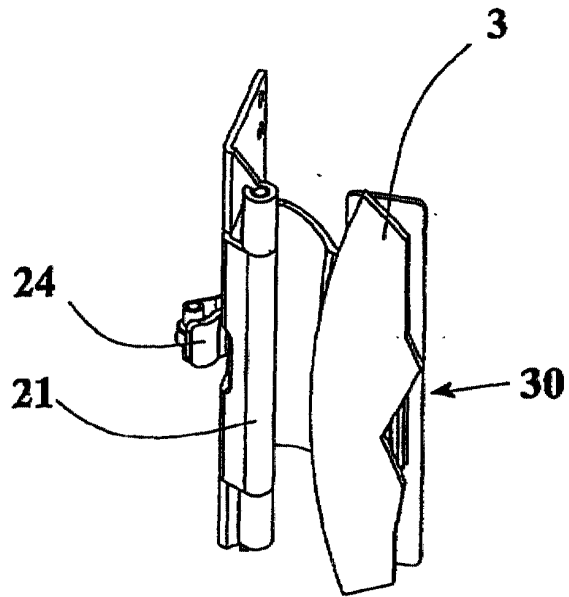
(54) **Two stage hinge device for the door of electric household appliances, particularly for washing machine**

(57) A hinge device (1), particularly for the door (3) of an electric household appliance (2), of the type washing machine, oven and the like, includes a connection element (10) connected to the frame (6) of the appliance (2), a support element (30) to which is connected the door (3) and a shaped element (20), whose first end (21) is hinged to the connection element (10), and whose second end (23) is hinged to the support element (30).

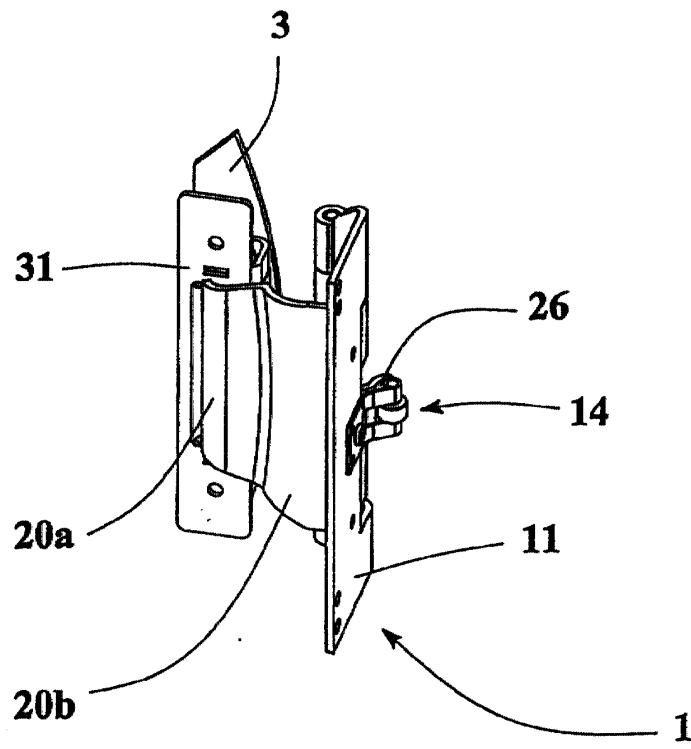
The device further includes stop means, first (14) and second (34) fit to limit the amplitude of the rotations, respectively first (R1), between the shaped element (20) and the connection element (10), and second (R2), between the support element (30) and the shaped element (20), and friction means (32), positioned between the shaped element (20) and the support element (30).

The friction means (32) are fit to differentiate the values of the counter actions exerting against the rotations, first (R1) and second (R2), determining a two-stage opening-closing for the door (3), so that this latter changes from a closing condition (C), in which the door (3) closes the load opening (5) of the appliance (2), to an extreme opening condition (A), in which the same door (3) is at the maximum distance from the opening (5), through an intermediate opening condition (B) in correspondence of which there is the passage between the conditions of rotations, first (R1) and second (R2).





**FIG.6b**



**FIG.6c**



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 00 12 4080

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)
A	AT 389 717 B (EUDORAWERKE WELS K. & J. STEININGER) 25 January 1990 (1990-01-25) * figures 1-3 * ---	1	D06F39/14
A	EP 0 616 069 A (MERLONI ELETTRODOMESTICI) 21 September 1994 (1994-09-21) * the whole document * ---	1	
A	EP 0 859 079 A (CANDY S.P.A.) 19 August 1998 (1998-08-19) * figures 2,3 * ---	1	
P,A	EP 1 046 774 A (BOVEDANI S.P.A.) 25 October 2000 (2000-10-25) * figures 1,2 * ---	1	
A	DE 298 02 114 U (LTD LOCKING TECHNOLOGIES AND DEVICES GMBH) 10 June 1998 (1998-06-10) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			D06F A47L E05D
Place of search	Date of completion of the search	Examiner	
THE HAGUE	31 July 2001	Fairbanks, S	
CATEGORY OF CITED DOCUMENTS		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	
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			

EPC FORM 1503 03 82 (P04C01)

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

EP 00 12 4080

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.

31-07-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
AT 389717	B	25-01-1990	AT 132488 A	15-06-1989
EP 616069	A	21-09-1994	IT T0930055 U	19-09-1994
EP 859079	A	19-08-1998	IT MI970326 A	17-08-1998
EP 1046774	A	25-10-2000	NONE	
DE 29802114	U	10-06-1998	NONE	

EPO FORM P0459

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