(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 607 793 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
26.06.2013 Bulletin 2013/26

(51) Int Cl.:
F24C 15/08 *(2006.01)* ***F24C 15/10*** *(2006.01)*

(21) Application number: **12197628.6**

(22) Date of filing: **18.12.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **20.12.2011 TR 201112669**

(71) Applicant: **BSH Bosch und Siemens Hausgeräte GmbH**
81739 München (DE)

(72) Inventors:
- **Gürü, Sencer**
  59850 Tekirdag (TR)
- **Usta, Sabri**
  59500 Tekirdag (TR)
- **Uygun, Ramazan**
  59850 Tekirdag (TR)

(54) **A cooking device with a spring element**

(57) The present invention relates to a cooking device (10) comprising a body (20) and a top plate (30) positioned with a predetermined spacing (50) with the body (20) and a spring element (40) positioned in the spacing (50) and configured to release the top plate (30) when a force is applied from the outside of the device (10) via spacing (50).

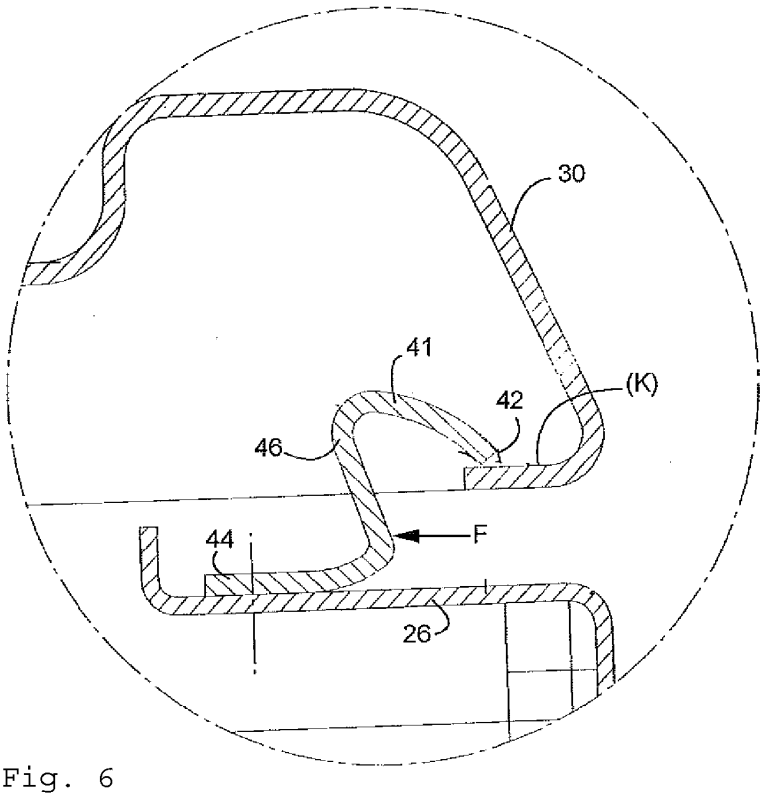

Fig. 6

EP 2 607 793 A1

Description

TECHNICAL FIELD

[0001] The present invention relates to a cooking device having a connection spring between the top plate and the body thereof.

KNOWN STATE OF THE ART

[0002] In the cooking devices, after the burners are positioned on the body, the top plate is placed on the body so as to pass through the burners, and afterwards, the top plate is fixed to the body by means of connection elements. In the known state of the art, said fixation process is realized by means of pluralities of methods. In one of these methods, after the top plate is positioned on the body, it is screwed to the two lateral walls of the body by means of 4 screws where there is one screw in the front and there is one screw at the rear part of said lateral walls.

[0003] The other method is defined in the patent application WO2008080795. In this application, a connection spring is described which provides the top plate to be assembled to the body. Said connection spring has an inverse V form and it is positioned between the top plate and the body. While the top plate is pressed from above and when it is fixed to the body, the spring bends back and when the top plate is seated to the body completely, the spring returns to the prior position thereof.

BRIEF DESCRIPTION OF THE INVENTION

[0004] The object of the present invention is to provide a cooking device having a top plate whose assembly and the disassembly process can be realized in an easy manner by means of a spring element.

[0005] In order to reach said object, the present cooking device comprises a body and a top plate positioned with a predetermined spacing with the body in an accessible manner from the outside of the device. In the preferred embodiment of the present invention, a spring element is provided pressing the top plate to the body in a manner to attach the top plate to the body in the locked position and configured therefore to release the top plate when a force is applied from the outside of the device via spacing. By means of this, the spring element is removed by applying for instance an apparatus between the top plate and the body; and the locking condition, which is obtained as a result of the pressure applied to the top plate, is eliminated. Alternatively, in the locked position, the press can also be applied from the top plate towards the body.

[0006] The cooking device comprises a spring element where the upper end bends backwardly and releases the top plate in case a force (F), applied through the spacing, is applied to a joining wall which joins an upper end and a lower edge, where the upper end thereof is rested from the inner side of the inner folded-edge of the top plate and where the lower edge is fixed to the body from a lower edge thereof which is at a lower level than the upper end and which extends in S form from the upper end towards the body. By means of this, the top plate, which is assembled to the body, can be easily disassembled by means of a force applied between the body and the top plate.

[0007] In an application of the present invention, the spring element is positioned in the middle region of the body.

[0008] In another application of the present invention, one each spring elements are positioned at a region of the body close to the both corners of the body.

BRIEF DESCRIPTION OF THE FIGURES

[0009] The additional characteristics and advantages of the present invention will be obtained from the exemplary embodiments giving reference to the accompanied figures.

[0010] In Figure 1, the perspective view of the subject matter cooking device is given.

[0011] In Figure 2, the frontal perspective detailed view of the subject matter cooking device is given.

[0012] In Figure 3, the view of Detail A illustrated in Figure 2 is given.

[0013] In Figure 4, the perspective view of the spring element in the subject matter cooking device is given.

[0014] In Figure 5, the lateral cross sectional view of the subject matter cooking device is given.

[0015] In Figure 6, the view of Detail B illustrated in Figure 5 is given.

REFERENCE NUMBERS

[0016]

10	Cooking device
20	Body
22	Burner
24	Door
30	Top plate
40	Spring element
41	Upper edge
42	Upper end
44	Lower edge
46	Joining wall
50	Spacing

THE DETAILED DESCRIPTION OF THE INVENTION

[0017] The subject matter cooking device (10) comprises a body (20) which has a door (24) at the front side thereof; at least one burner (22) which is positioned on the body (20); a top plate (30) which has a cut-out wherein the burner (22) is housed and which is assembled onto the body (20); a spring element (40) which provides the assembly of the top plate (30) to the body (20) and which is positioned between the body (20) and the top plate (30).

[0018] In Figure 1, a perspective view of a cooking device (10) is given. The top plate (30) is positioned and assembled onto the body (20). After the top plate (30) is assembled onto the body (20), a spacing (50) is formed between the body (20) and the top plate (30). Prior to the assembly of the top plate (30), the spring element (40) is fixed to the body (20) so as to be accessible through said opening (50) formed after assembly on an upper surface (26) of the body (20). Afterwards, the plate (30) is positioned on the body (20) so that the edge part of the top plate (30) will be provided on the spring element (40). When the top plate (30) is pressed from above, the spring element (40) bends and the edge bent part (K) of the top plate (30) enters beneath the spring element (40) and thereby it is assembled (Figure 2 and Figure 3). In the application of the present invention in Figure 1, 2 and 3, the spring element (40) is positioned at a middle point of front side of the body (20) where the door (24) is provided.

[0019] In Figure 4, the perspective view of the spring element (40) is given. The spring element (40) comprises a lower edge (44) extension which is parallel to the upper surface (26) of the body (20). The spring element (40) has a profile which draws an S shape from a lower edge thereof (44) towards an upper edge thereof (41). At the end thereof, the upper edge (41) comprises an upper end (42). The upper edge (41) and the upper end (42) are at a higher level than the level of the lower edge (44). The spring element (40) moreover comprises a joining wall (46) which joins the upper edge (41) and the lower edge (44) in the vertical direction. The joining wall (46) makes a narrow angle with the lower and upper edges (44, 41). The angle which the joining wall (46) makes with the lower edge (44) is greater than the angle which the joining wall (46) makes with the upper edge (41).

[0020] In Figure 5 and Figure 6, the lateral cross sectional view of the cooking device (10) after assembly is given. While in this position, the upper end (42) of the spring element (40) applies a force to the folded-edge (K) of the top plate (30) internally and thereby fixes the top plate (30) on the body (20). In this position, the lower edge (44) of the spring element (40) is fixed to the upper surface (26) of the body (20) by means of a connection element (not illustrated in the figure). When the top plate (30) is positioned on the body (20) prior to assembly and when the top plate (30) is pressed from above for the assembly process, as the upper end (42) of the spring element (40) bends towards the joining wall (46), the folded-edge (K) enters underneath the upper end (42). When the pressure applied to the top plate (30) from above is interrupted, the upper end (42) advances towards the folded-edge (K), and it begins applying pressure to the folded-edge (K) and it holds the top plate (30) in a fixed position. When the top plate (30) is desired to be dismantled from the body (20), an "F" force is applied to the joining wall (46), which can be accessed through the spacing (50), by means of a tapered or strip-form apparatus (not illustrated in the figure). By means of this process, while the spring element (40) bends backwardly by means of the joining wall (46), the upper end thereof (42) is released from the folded-edge (K) of the top plate (30) and thereby it releases the top plate (30). Thus, the top plate (30) can be released and can be lifted upwardly by being held from the edge thereof.

Claims

1. A cooking device (10) comprising a body (20) and a top plate (30) positioned with a predetermined spacing (50) with the body (20) in an accessible manner from the outside of the device (10) and **characterized by** a spring element (40) pressing the top plate (30) to the body (20) in a manner to attach the top plate (30) to the body (20) in the locked position and configured therefore to release the top plate (30) when a force is applied from the outside of the device (10) via spacing (50).

2. A cooking device according to Claim 1, wherein the spring element (40) comprises an upper end (42) which bends backwardly and releases the top plate (30) when a force (F) is applied through the spacing (50) to a joining wall (46) of the spring element (40), said upper end (42) extending up to the inner side of the inner folded-edge (K) of the top plate (30), and the spring element (40) is fixed to the body (20) from a lower edge thereof (44) which is at a lower level than the upper end (42) and extends in S form from the upper end (42) towards the body (20).

3. A cooking device according to any one of the preceding claims, wherein the spring element (40) is positioned in the middle of the body (20).

4. A cooking device according to any one of the preceding claims, wherein one each spring elements (40) are positioned at a region of the body (20) close to the both corners thereof.

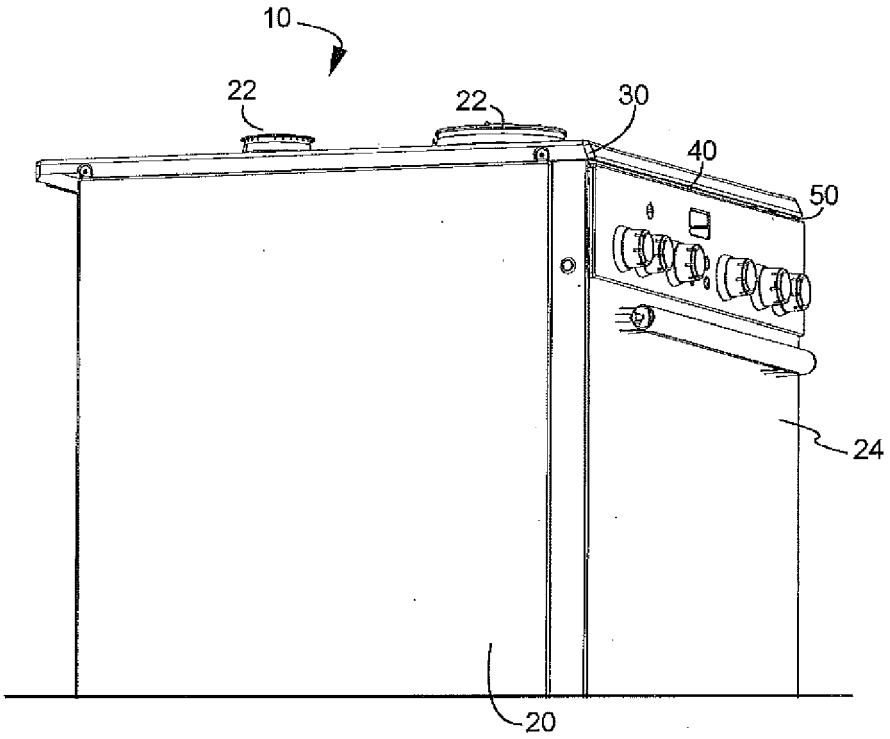

Fig. 1

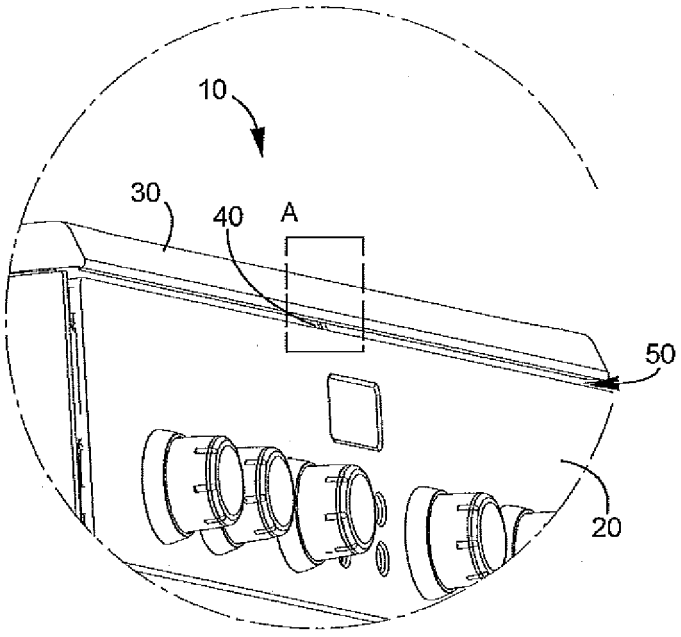

Fig. 2

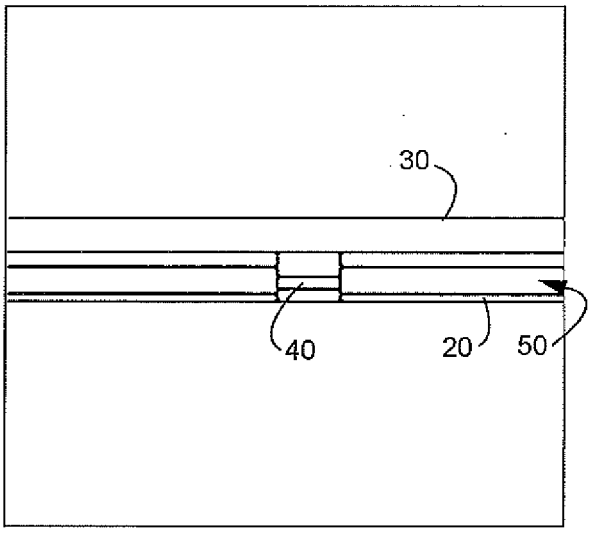

Fig. 3

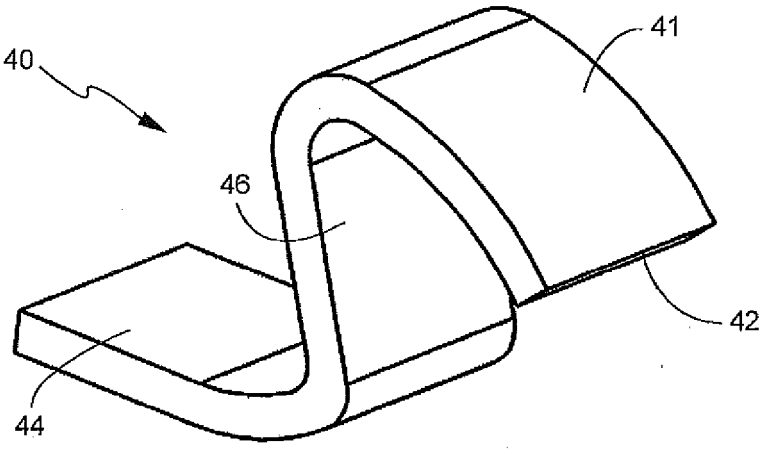

Fig. 4

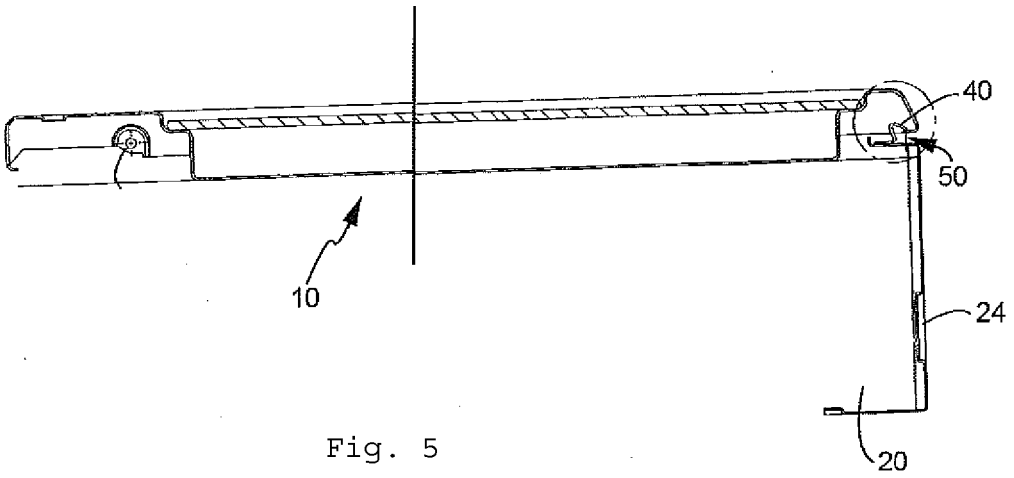

Fig. 5

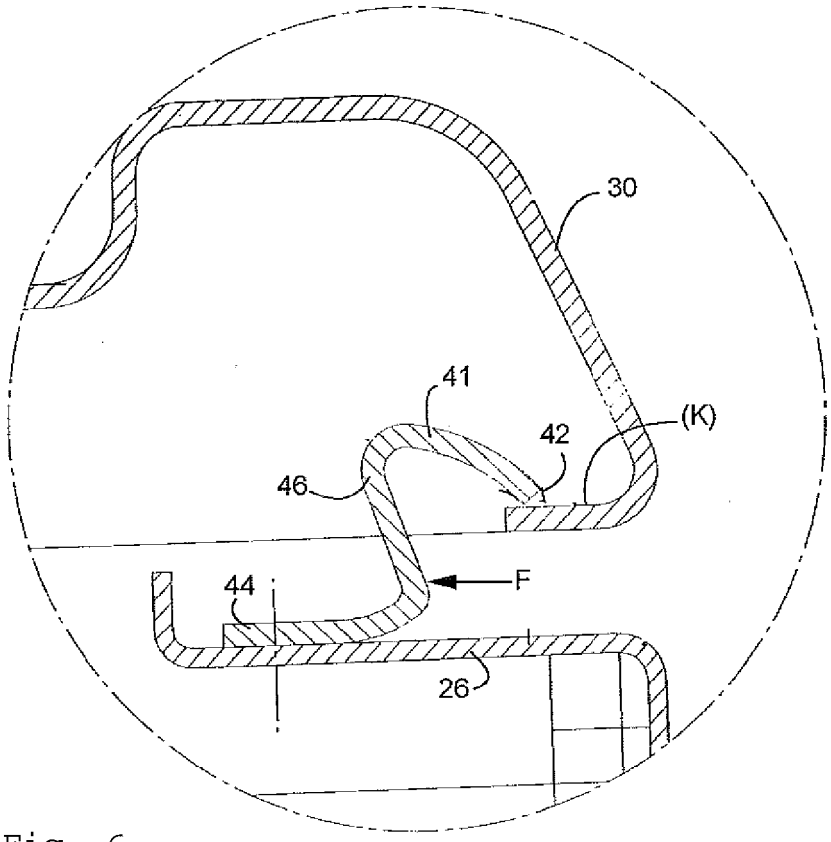

Fig. 6

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 12 19 7628

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,D Y	WO 2008/080795 A2 (ARCELIK AS [TR]; KALAYCI CEMALETTIN [TR]; TURKOZ SERDAR [TR]; FESLIGIL) 10 July 2008 (2008-07-10) * paragraph [0023] - paragraph [0032]; figures 1-9 *	1,3,4 2	INV. F24C15/08 F24C15/10
X	GB 430 829 A (FALK STADELMANN AND COMPANY LT; STANLEY FENELEY BICKELL) 26 June 1935 (1935-06-26) * page 1, line 75 - page 2, line 8; figures 1-5 *	1	
Y	DE 196 13 320 C1 (BAUKNECHT HAUSGERAETE [DE]) 30 April 1997 (1997-04-30) * column 2, line 50 - column 3, line 36; figures 1-3 *	2	
A	US 5 859 410 A (WHITE JAMES AARON [US] ET AL) 12 January 1999 (1999-01-12) * the whole document *	1-4	
A	EP 2 192 352 A2 (BSH BOSCH SIEMENS HAUSGERAETE [DE]) 2 June 2010 (2010-06-02) * the whole document *	1-4	TECHNICAL FIELDS SEARCHED (IPC) F24C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22 March 2013	Makúch, Milan

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)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 12 19 7628

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.

22-03-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008080795 A2	10-07-2008	EP 2097680 A2	09-09-2009
		WO 2008080795 A2	10-07-2008
GB 430829 A	26-06-1935	NONE	
DE 19613320 C1	30-04-1997	NONE	
US 5859410 A	12-01-1999	NONE	
EP 2192352 A2	02-06-2010	EP 2192352 A2	02-06-2010
		ES 2373152 A1	01-02-2012

EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2008080795 A **[0003]**