

(19)



(11)

EP 3 845 817 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

07.07.2021 Bulletin 2021/27

(51) Int Cl.:

F24C 15/16^(2006.01)

(21) Application number: **20216640.1**

(22) Date of filing: **22.12.2020**

(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

KH MA MD TN

(30) Priority: **30.12.2019 TR 201922557**

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(54) **A COOKING DEVICE COMPRISING A COOKING STONE**

(57) The present invention relates to a cooking device (1) comprising a body (2); a cooking chamber (3) which is disposed in the body (2), which has a ceiling (4), a base (5) and side walls (6) which extend between the ceiling (4) and the base (5) and wherein the cooking process is performed; an opening (7) which is arranged at

the front side of the cooking chamber (3) and which allows access into the cooking chamber (3); and a cooking stone (8) which is suitable for cooking food on the surface thereof and which has a usage position wherein the cooking stone (8) is placed onto the base (5).

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Description

[0001] The present invention relates to a cooking device comprising a cooking stone whereon foodstuffs can be cooked.

[0002] In cooking devices, the cooking process is performed by dissipating the heat generated by the heater into the cooking chamber by means of the fan. Thereby, the foodstuffs in the cooking chamber are cooked by means of the hot air. However, foodstuffs such as pizza and pastries must contact a hot surface directly in order to be cooked properly without becoming hard. Thus, cooking stones produced from ceramic or rocks with high heat capacity, dissipating heat slowly in time are used for cooking foodstuffs such as pizza and pastries. Thus, certain types of foodstuffs are cooked on the cooking stone placed into the cooking chamber. The users have to clean the cooking stone periodically to remove the residues and dirt left on the surface of the cooking stone. However, taking out and replacing the cooking stone is difficult for users due to its dimensions and weight. Thus, the users may avoid cleaning the cooking stone. Moreover, incorrect placing of the cooking stone creates safety problems and decreases the cooking efficiency.

[0003] In the state of the art International Patent Application No. WO2019219360, a cooking device comprising a cooking stone is disclosed.

[0004] The aim of the present invention is the realization of a cooking device wherein the cooking stone can be used easily.

[0005] The cooking device realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a cooking stone which is suitable to be placed onto the base of the cooking chamber, and a movement mechanism which enables the cooking stone to be moved between a usage position wherein the cooking stone is placed on the base of the cooking chamber so as to enable the foodstuffs to be cooked and an raised position wherein the cooking stone is moved away from the base at least partially. When the movement mechanism is actuated when the cooking stone is in the usage position, the cooking stone is raised so as to be moved away from the base at least partially. Thus, the cooking stone can be taken out of the cooking chamber easily. When the user actuates the movement mechanism again in the raised position, the cooking stone returns from the raised position to the usage position. Thus, the cooking stone is enabled to be placed correctly and easily.

[0006] In an embodiment of the present invention, the movement mechanism enables the cooking stone to be moved away from the base such that there is a gap between the base and the cooking stone in the raised position, enabling the user to put his fingers under the cooking stone. Thereby, the user can grasp the cooking stone easily.

[0007] In another embodiment of the present invention, the movement mechanism is positioned so as to enable

the front side of the cooking stone to be raised. In a version of this embodiment, the movement mechanism is positioned at the front side of the base so as to be near the opening on the base. In another version of this embodiment, the movement mechanism is positioned on the lower surface of the cooking stone so as to be near the front edge of the cooking stone. The cooking stone is moved by means of the movement mechanism between the usage position and the raised position so as to move pivotally around the rear edge thereof. Thereby, since the cooking stone is tilted backwards in the raised position, the cooking stone can be easily placed into and taken out of the cooking chamber.

[0008] In an embodiment of the present invention, at the front section of the base, at least one step in the form of a protrusion is provided, which is flush with the upper surface of the cooking stone facing the cooking chamber when the cooking stone is in the usage position. By means of the step, the cooking stone is placed onto the base safely and correctly.

[0009] In another embodiment of the present invention, on the base, a housing is provided, which is in the form of a cavity wherein a heater is disposed and covered by the cooking stone when the cooking stone is in the usage position. Thus, access to the heater is facilitated.

[0010] In another embodiment of the present invention, the movement mechanism is a spring-loaded retraction mechanism. Thus, a simple and ease to use movement mechanism is provided.

[0011] By means of the present invention, a cooking device is realized, wherein the cooking stone can be used correctly and safely.

Figure 1 - is the view of a cooking device when the cooking stone is in the usage position related to an embodiment of the present invention.

Figure 2 - is the sideways schematic view of the cooking chamber, the cooking stone and the heater related to another embodiment of the present invention.

Figure 3 - is the view of the cooking device when the cooking stone is in the raised position related to another embodiment of the present invention.

Figure 4 - is the view of the cooking stone related to another embodiment of the present invention.

Figure 5 - is the view of the base, the cooking stone and the movement mechanism when the cooking stone is in the raised position related to another embodiment of the present invention.

Figure 6 - is the view of the base, the cooking stone and the movement mechanism when the cooking stone is in the usage position related to another embodiment of the present invention.

[0012] The elements illustrated in the figures are numbered as follows:

1. Cooking device

2. Body
3. Cooking chamber
4. Ceiling
5. Base
6. Side wall
7. Opening
8. Cooking stone
9. Movement mechanism
10. Gap
11. Step
12. Housing
13. Heater
14. Spring

[0013] The cooking device (1) comprises a body (2); a cooking chamber (3) which is disposed in the body (2), which has a ceiling (4), a base (5) and side walls (6) which extend between the ceiling (4) and the base (5) and wherein the cooking process is performed; an opening (7) which is arranged at the front side of the cooking chamber (3) and which allows access into the cooking chamber (3); and a cooking stone (8) which is suitable for cooking food on the surface thereof and which has a usage position wherein the cooking stone (8) is placed onto the base (5). The cooking chamber is in the form of a box with front side open and the opening (7) at the front side of the cooking chamber (3) is closed by means of a door. Foodstuffs are placed onto the cooking stone (8) and cooked in the usage position wherein the cooking stone (8) is seated onto the base (5).

[0014] The cooking device (1) of the present invention comprises at least one movement mechanism (9) which is disposed between the base (5) and the cooking stone (8), and which, when triggered by the user when the cooking stone (8) is in the usage position, enables the cooking stone (8) to be moved to a raised position wherein the cooking stone (8) is at least partially raised above the base (5), by pushing the cooking stone (8) into the cooking chamber (3). The movement mechanism (9) is positioned on the base (5) or on the cooking stone (8) so as to remain between the cooking stone (8) and the base (5) when the cooking stone (8) is in the cooking chamber (3). When triggered, the movement mechanism (9) pushes from below and moves the cooking stone (8) in the usage position to a raised position wherein the cooking stone (8) is raised from the base (5) at least partially relative to the usage position. When the movement mechanism (9) is triggered again when the cooking stone (8) is in the raised position, the movement mechanism (9) retracts and enables the cooking stone (8) to be seated onto the base (5), in other words, to return to the usage position. By moving the cooking stone (8) away from the base (5) in the raised position, the user is enabled to grasp the cooking stone (8) easily and place the same into and take the same out of the cooking chamber (3) safely.

[0015] In an embodiment of the present invention, the cooking device (1) comprises a gap (10) which is ar-

ranged between the cooking stone (8) and the base (5) when the cooking stone (8) is in the raised position, and which enables the user to place his/her fingers under the cooking stone (8). The cooking stone (8) is raised from the base (5) by means of the movement mechanism (9) while being moved from the usage position to the raised position and thus, in the raised position, a gap (10) remains between the cooking stone (8) and the base (5), which can be accessed through the opening (7). Thereby, the user can grasp the bottom of the cooking stone (8) by passing his fingers through the gap (10).

[0016] In another embodiment of the present invention, the movement mechanism (9) is positioned at the front section of the base (5) near the opening (7). The movement mechanism (9) is positioned at the front section of the base (5) so as to raise the cooking stone (8) from the front side. When the cooking stone (8) is in the usage position, the upper surface of the cooking stone (8) facing the cooking chamber (3) extends in the horizontal plane. When triggered, the movement mechanism (9) raises the cooking stone (8) from the front side thereof and moves the same to the raised position. Thereby, the cooking stone (8) is tilted backwards such that the upper surface thereof extends with an angle to the horizontal plane. Thus, the cooking stone (8) can be easily placed and taken out.

[0017] In another embodiment of the present invention, the movement mechanism (9) is disposed onto the lower surface of the cooking stone (8) facing the base (5). The movement mechanism (9) is fixed onto the lower surface of the cooking stone (8) so as to be near the front edge thereof. By means of the integrated structure of the movement mechanism (9) and the cooking stone (5), ease of production is provided.

[0018] In another embodiment of the present invention, on the base (5), a step (11) is provided, which is in the form of a protrusion and which is positioned in front of the cooking stone (8) when the cooking stone (8) is in the usage position. When the cooking stone (8) is in the usage position, the front edge of the cooking stone (8) which is near the opening (7) bears against the step (11). Thereby, the step (11) prevents the cooking stone (8) in the usage position from being pulled forwards and raised from the base (5) by the user before using the movement mechanism (9). Thus, the safety of the cooking device (1) is improved.

[0019] In another embodiment of the present invention, the cooking device (1) comprises a housing (12) in the form of a cavity which is provided on the base (5) and which is covered by the cooking stone (8) in the usage position, and a heater (13) which is disposed in the housing (12). When the cooking stone (8) is in the usage position, the heater (13) is positioned under the cooking stone (8). The heater (13) enables the cooking effectiveness to be improved by heating the cooking stone (8) from below. When the cooking stone (8) is moved to the raised position after the movement mechanism (9) is triggered, the housing (12) is uncovered. Thereby, the heat-

er (13) can be easily accessed for repair or cleaning.

[0020] In another embodiment of the present invention, the movement mechanism (9) is a retraction mechanism. In another embodiment of the present invention, the movement mechanism (9) has a compression spring (14). When the cooking stone (8) is in the usage position, the movement mechanism (9) is in a retracted position wherein the compression spring (14) is compressed. When the cooking stone (8) is in the usage position, the user triggers the movement mechanism (9) by pushing the top surface of the cooking stone (8) and the movement mechanism (9) moves from the retracted position to a released position wherein the spring (14) is not compressed and pushes the cooking stone (8). When the user pushes again the top surface of the cooking stone (8) which is in the raised position, the compression spring (14) returns to the retracted position and enables the cooking stone (8) to return from the raised position to the usage position. Thus, the cooking stone (8) is enabled to automatically move in between the usage position and the raised position.

[0021] By means of the present invention, a cooking device (1) is realized, wherein the cooking stone (8) can be used easily and safely. Furthermore, by means of the present invention, functional integrity of the cooking stone (8) with the cooking device (1) is improved, ensuring user satisfaction.

Claims

1. A cooking device (1) **comprising** a body (2); a cooking chamber (3) which is disposed in the body (2), which has a ceiling (4), a base (5) and side walls (6) which extend between the ceiling (4) and the base (5) and wherein the cooking process is performed; an opening (7) which is arranged at the front side of the cooking chamber (3) and which allows access into the cooking chamber (3); and a cooking stone (8) which is suitable for cooking food on the surface thereof and which has a usage position wherein the cooking stone (8) is placed onto the base (5), **characterized by** at least one movement mechanism (9) which is disposed between the base (5) and the cooking stone (8), and which, when triggered by the user when the cooking stone (8) is in the usage position, enables the cooking stone (8) to be moved to a raised position wherein the cooking stone (8) is at least partially raised above the base (5), by pushing the cooking stone (8) into the cooking chamber (3).
2. A cooking device (1) as in Claim 1, **characterized by** a gap (10) which is arranged between the cooking stone (8) and the base (5) when the cooking stone (8) is in the raised position, and which enables the user to place his/her fingers under the cooking stone (8).
3. A cooking device (1) as in Claim 1 or Claim 2, **characterized by** the movement mechanism (9) which is positioned at the front section of the base (5) which is near the opening (7).
4. A cooking device (1) as in Claim 1 or Claim 2, **characterized by** the movement mechanism (9) which is disposed on the lower surface of the cooking stone (8) facing the base (5).
5. A cooking device (1) as in any one of the above claims, **characterized by** a step (11) which is provided on the base (5), which is in the form of a protrusion and which is positioned in front of the cooking stone (8) when the cooking stone (8) is in the usage position.
6. A cooking device (1) as in any one of the above claims, **characterized by** a housing (12) in the form of a cavity which is provided on the base (5) and which is covered by the cooking stone (8) in the usage position, and a heater (13) which is disposed in the housing (12).
7. A cooking device (1) as in any one of the above claims, **characterized by** the movement mechanism (9) which is a retraction mechanism.

Figure 1

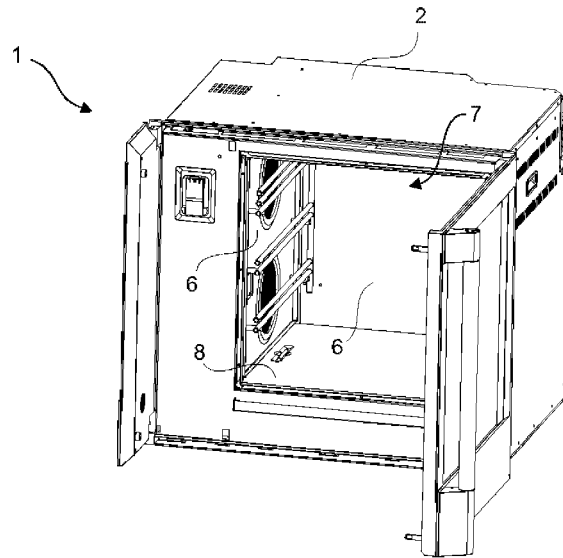


Figure 2

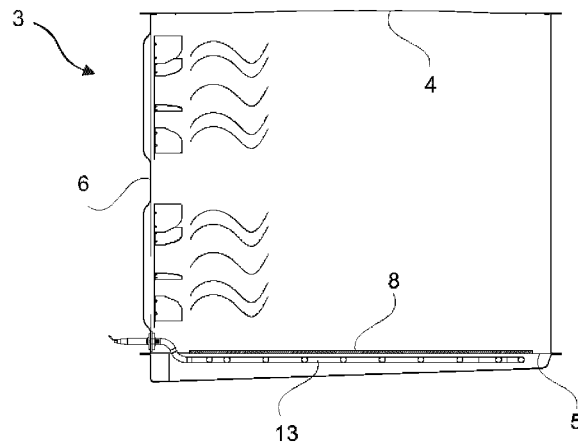


Figure 3

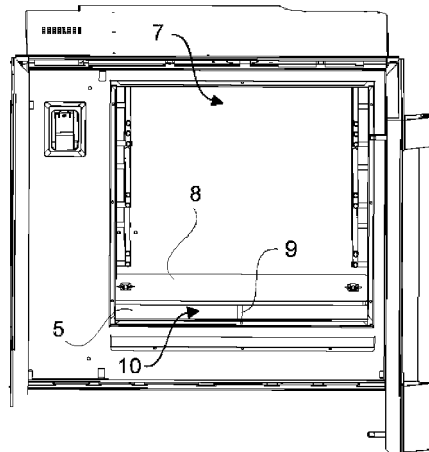


Figure 4

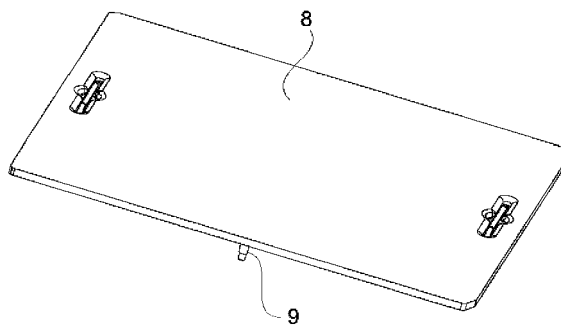


Figure 5

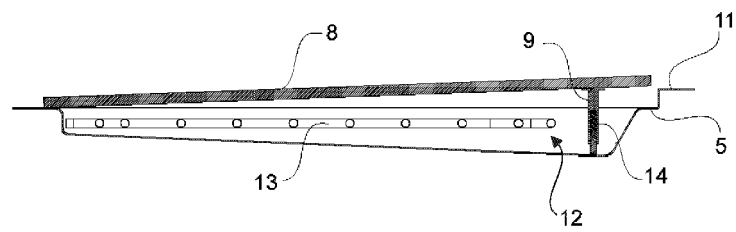
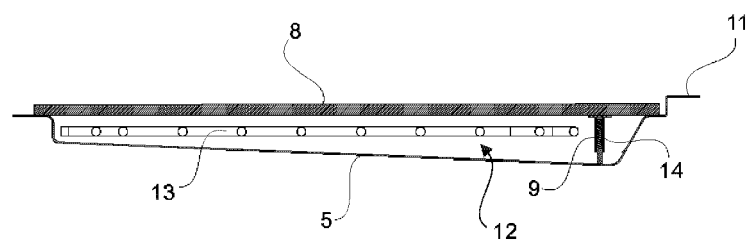


Figure 6





EUROPEAN SEARCH REPORT

 Application Number
 EP 20 21 6640

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 102 41 486 A1 (ELECTROLUX HOME PROD CORP [BE]) 4 March 2004 (2004-03-04) * the whole document *	1-7	INV. F24C15/16
A	JP S51 67437 U (UNKNOWN [JP]) 28 May 1976 (1976-05-28) * the whole document *	1-7	
A	WO 2017/005310 A1 (ARCELIK AS [TR]) 12 January 2017 (2017-01-12) * the whole document *	1-7	
A	JP 2000 193252 A (PALOMA KOGYO KK) 14 July 2000 (2000-07-14) * the whole document *	1-7	
A	JP 2001 263685 A (PALOMA KOGYO KK) 26 September 2001 (2001-09-26) * the whole document *	1-7	
A	KR 100 788 508 B1 (LG ELECTRONICS INC [KR]) 24 December 2007 (2007-12-24) * the whole document *	1-7	TECHNICAL FIELDS SEARCHED (IPC)
A	US 2012/125312 A1 (NAM HYEUN SIK [KR]) 24 May 2012 (2012-05-24) * the whole document *	1-7	F24C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 18 May 2021	Examiner Rodriguez, Alexander
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ON EUROPEAN PATENT APPLICATION NO.**

EP 20 21 6640

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 10241486	A1	04-03-2004	NONE	
JP S5167437	U	28-05-1976	JP S5167437 U	28-05-1976
			JP S5522415 Y2	28-05-1980
WO 2017005310	A1	12-01-2017	NONE	
JP 2000193252	A	14-07-2000	NONE	
JP 2001263685	A	26-09-2001	JP 4050440 B2	20-02-2008
			JP 2001263685 A	26-09-2001
KR 100788508	B1	24-12-2007	NONE	
US 2012125312	A1	24-05-2012	KR 20100120020 A	12-11-2010
			US 2012125312 A1	24-05-2012
			WO 2010128723 A1	11-11-2010

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

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Patent documents cited in the description

- WO 2019219360 A [0003]