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(54) **A COOKING DEVICE COMPRISING A TOP COVER**

KOCHVORRICHTUNG MIT EINER OBEREN ABDECKUNG

DISPOSITIF DE CUISSON COMPRENANT UN COUVERCLE SUPÉRIEUR

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EP 3 899 372 B1

## Description

**[0001]** The present invention relates to a cooking device comprising a dampening mechanism which enables the top cover to be slowly closed.

**[0002]** In freestanding ovens, a top cover is provided, which covers the burner plate when the oven is not used, which is fixed to the casing by means of hinges, which can be opened and closed, and which is produced from glass material. While the top cover is being opened/closed, stress may occur especially at the regions where the hinges connecting the top cover to the body are positioned, adversely affecting the burner plate covered with enamel and causing the enamel to be damaged. Moreover, after passing a certain angle while being closed, the top cover hits the burner plate hard. This impact damages both the burner plate and the top cover, causing various deformations.

**[0003]** In the state of the art, even if it is thought to solve this problem by increasing the spring force of the hinge, when this solution is applied, the top cover opens quickly and as a result the top cover may hit the wall and get broken.

**[0004]** In the state of the art German Patent Application No. DE19613320, a top plate fixing system used in household appliances is disclosed, and a pair of spring sockets are provided in front of the top plate and at opposite sides of the panel.

**[0005]** Documents CN 202177150 U and US 2018/238093 A1 represent further prior art relevant for the invention.

**[0006]** The aim of the present invention is the realization of a cooking device comprising a dampening mechanism which enables the top cover to be slowly closed.

**[0007]** The cooking device realized in order to attain the aim of the present invention, explicated in the first claim and the respective dependent claims thereof, comprises one or more than one damper which is positioned behind the burner plate, which extends towards the top plate, which contacts the top cover while the top cover is closed onto the burner plate so as to slow down the movement of the top cover and which prevents the top cover from hitting due to the interruption of the contact while the top cover is being opened.

**[0008]** The top cover rotates around the axis of the hinge and closes onto the burner plate until getting in contact with the damper. During this movement, the top cover gets in contact with the damper, and the damper applies a force against the closing movement of the top cover, preventing the top cover from hitting the burner plate hard. Thus, the top cover is prevented from falling hard, and the top cover is prevented from getting damaged by hitting the burner plate, and the user is prevented from getting hurt with his/her hand being stuck between the burner plate and the top cover. Moreover, since the damper does not apply a large force in the opening direction of the top cover, the top cover is prevented from hitting the wall.

**[0009]** In an embodiment of the present invention, the damper contacts the holder while the top cover is being closed.

**[0010]** In an embodiment of the present invention, the damper comprises a cylindrical hollow casing, a spring disposed into the casing, a pin fixed onto the spring, a first fixing member forming the top cover of the casing, and a second fixing member covering the underside of the casing. In the embodiment of the present invention, the damper comprises a step which is arranged on the pin, which enables the pin to be seated onto the spring and which forms the part thereof remaining in the casing, and an extension which extends in the vertical direction outwards from the step.

**[0011]** In an embodiment of the present invention, the damper is passed through a mounting hole bored on the rear side of the burner plate and placed onto the side of the burner plate. The first fixing member is attached to the upper part of the casing via the pin remaining at the upper side of the mounting hole while the second fixing member is attached to the lower part of the casing remaining under the mounting hole, thus enabling the damper to be fixed to the burner plate such that the burner plate remains between the first and second fixing members.

**[0012]** When the top cover reaches a certain angle while being closed onto the burner plate by rotating around the holder via which the top cover is connected to the hinges, the holder gets closer to the damper and gets in contact with the pin extending in the vertical direction. By means of said contact, the holder pushes the extension and the step which is integrated with the extension thanks to the weight of the top cover. A force is applied onto the spring whereon the step is seated while the spring applies a counterforce, thus slowing down the movement of the top cover towards the burner plate. Thus, the top cover is prevented from hitting the burner plate. While the top cover is being opened, the damper applies a force up to a certain angle; however, since the contact between the damper and the top cover is interrupted after a certain angle, the damper cannot apply a force to the top cover anymore. In this case, the top cover is prevented from hitting the wall hard.

**[0013]** By means of the present invention, the top cover is prevented from hitting the burner plate while being closed and the wall while being opened. Thus, the top cover, especially the glass top cover is prevented from being broken due to impact. Moreover, since the movement of the top cover is dampened by the damper while being closed towards the burner plate, the hand/fingers of the user are prevented from getting stuck and damaged between the top cover and the burner plate.

**[0014]** A cooking device realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of a cooking device when the top cover is open.

Figure 2 - is the perspective view of the top cover while being shifted from the open position to the closed position.
Figure 3 - is the perspective view of the cooking device when the top cover is closed.
Figure 4 - is the perspective view of the damper.
Figure 5 - is the detailed view of the damper.
Figure 6 - is the exploded view of the damper.
Figure 7 - is the top perspective view of the damper when mounted to the burner plate.
Figure 8 - is the below perspective view of the damper when mounted to the burner plate.
Figure 9 - is the sideways cross-sectional view of the cooking device when the top cover is closed.
Figure 10 - is the sideways cross-sectional view of the cooking device while the top cover is being closed.

**[0015]** The elements illustrated in the figures are numbered as follows:

1. Cooking device
2. Body
3. Burner plate
4. Top cover
5. Hinge
6. Damper
7. Casing
8. Pin
9. Step
10. Extension
11. Spring
12. First fixing member
13. Second fixing member
14. Holder
15. Mounting hole

**[0016]** The cooking device (1) comprises a body (2); a burner plate (3) which provides the performance of gas and/or electric heating, cooking processes on the body (2); a top cover (4) which covers the burner plate (3); at least two hinges (5) which are disposed at the rear side of the burner plate (3) and which connects the top cover (4) to the burner plate (3); and one or more than one damper (6) which is disposed at the rear side of the burner plate (3), which extends towards the top cover (4) and which gets in contact with the top cover (4) while the top cover (4) is being closed onto the burner plate (3) so as to slow down the movement of the top cover (4) (Figure 1).

**[0017]** The top cover (4), which is mounted to the body (2) and the burner plate (3) on the body (2) by means of the hinges (5), rotates around the hinges (5) until getting in contact with the damper (6) so as to be closed onto the burner plate (3). During this movement, the top cover (4) gets in contact with the damper (6), and the damper (6) applies a force against the closing movement of the top cover (4), preventing the top cover (4) from hitting the burner plate (3) hard. Thus, the top cover (4) is prevented from falling hard, and the top cover (4) is prevented from getting damaged by hitting the burner plate (3), and the user is prevented from getting hurt with his/her hand being stuck between the burner plate (3) and the top cover (4). While the top cover (4) is being opened, the contact between the damper (6) and the top cover (4) is interrupted after a certain angle. In this case, since the damper (6) does not apply a large force in the opening direction of the top cover (4), the top cover (4) is prevented from hitting the wall (Figure 2 and Figure 3).

**[0018]** In an embodiment of the present invention, the cooking device (1) comprises a holder (14) which enables the top cover (4) to be mounted to the hinges (5) and which is disposed along the rear side of the top cover (4). The top cover (4) is mounted to the hinges (5) by means of the holder (14). In the embodiment of the present invention, the damper (6) contacts the holder (14) while the top cover (4) is being closed.

**[0019]** In an embodiment of the present invention, the damper (6) comprises a preferably cylindrical hollow casing (7), a spring (11) disposed into the casing (7), a pin (8) fixed onto the spring (11), a first fixing member (12) forming the top cover (4) of the casing (7), and a second fixing member (13) covering the underside of the casing (7). In the embodiment of the present invention, the damper (6) comprises a step (9) which is arranged on the pin (8), which enables the pin (8) to be seated onto the spring (11) and which forms the part thereof remaining in the casing (7), and an extension (10) which extends in the vertical direction outwards from the step (9) (Figure 4, Figure 5 and Figure 6).

**[0020]** In an embodiment of the present invention, the damper (6) is passed through a mounting hole (15) bored on the rear side of the burner plate (3) and placed onto the side of the burner plate (3). The first fixing member (12) is attached to the upper part of the casing (7) via the pin (8) remaining at the upper side of the mounting hole (15) while the second fixing member (13) is attached to the lower part of the casing (7) remaining under the mounting hole (15), thus enabling the damper (6) to be fixed to the burner plate (3) such that the burner plate (3) remains between the first and second fixing members (12 and 13).

**[0021]** In an embodiment of the present invention, the first and second fixing members (12 and 13) are nuts, and tightened by means of the threads on the upper and lower sides of the casing (7), thus fixing the damper (6) onto the burner plate (3) (Figure 7 and Figure 8).

**[0022]** When the top cover (4) reaches a certain angle while being closed onto the burner plate (3) by rotating around the holder (14) via which the top cover (4) is connected to the hinges (5), the holder (14) gets closer to the damper (6) and gets in contact with the pin (8) extending in the vertical direction. By means of said contact, the holder (14) pushes the extension (10) and the step (9) which is integrated with the extension (10) thanks to the weight of the top cover (4). A force is applied onto the spring (11) whereon the step (9) is seated while the

spring (11) applies a counterforce, thus slowing down the movement of the top cover (4) towards the burner plate (3). Thus, the top cover (4) is prevented from hitting the burner plate (3). While the top cover (4) is being opened, the damper (6) applies a force up to a certain angle; however, since the contact between the damper (6) and the top cover (4) is interrupted after a certain angle, the damper (6) cannot apply a force to the top cover (4) anymore. In this case, the top cover (4) is prevented from hitting the wall hard (Figure 9 and Figure 10).

**[0023]** In a preferred embodiment of the present invention, the top cover (4) is glass. In this case, the present invention gains importance. Because when the top cover (4) hits the burner plate (3), the glass top cover (4) may get broken.

**[0024]** By means of the present invention, the top cover (4) is prevented from hitting the burner plate (3) while being closed and the wall while being opened. Thus, the top cover (4), especially the glass top cover (4) is prevented from being broken due to impact. Moreover, since the movement of the top cover (4) is dampened by the damper (6) while being closed towards the burner plate (3), the hand/fingers of the user are prevented from getting stuck and damaged between the top cover (4) and the burner plate (3).

## Claims

1. A cooking device (1) **comprising** a body (2); a burner plate (3) which provides the performance of gas and/or electric heating, cooking processes on the body (2); a top cover (4) which covers the burner plate (3); at least two hinges (5) which are disposed at the rear side of the burner plate (3) and which connect the top cover (4) to the burner plate (3); **characterized by** one or more than one damper (6) which is disposed at the rear side of the burner plate (3), which extends towards the top cover (4) and which gets in contact with the top cover (4) while the top cover (4) is being closed onto the burner plate (3) so as to slow down the movement of the top cover (4).

2. A cooking device (1) as in Claim 1, **characterized by** a holder (14) which enables the top cover (4) to be mounted to the hinges (5) and which is disposed along the rear side of the top cover (4).

3. A cooking device (1) as in Claim 1, **characterized by** the damper (6) comprising a preferably cylindrical hollow casing (7), a spring (11) disposed into the casing (7), a pin (8) fixed onto the spring (11), a first fixing member (12) forming the top cover (4) of the casing (7), and a second fixing member (13) covering the underside of the casing (7).

4. A cooking device (1) as in Claim 3, **characterized by** the damper (6) comprising a step (9) which is arranged on the pin (8), which enables the pin (8) to be seated onto the spring (11) and which forms the part thereof remaining in the casing (7), and an extension (10) which extends in the vertical direction outwards from the step (9).

5. A cooking device (1) as in Claim 1 and 3, **characterized by** the damper (6) which is fixed to the burner plate (3) by being attached to the upper part of the casing (7) via the pin (8) remaining at the upper side of the mounting hole (15) by means of the first fixing member (12) and to the lower part of the casing (7) remaining under the mounting hole (15) by means of the second fixing member (13) such that the burner plate (3) remains between the first and second fixing members (12 and 13).

6. A cooking device (1) as in Claim 3, **characterized by** the first and second fixing members (12 and 13) which are nuts.

7. A cooking device (1) as in any one of the above claims, **characterized by** the glass top cover (4).

## Patentansprüche

1. Ein Kochgerät (1), umfasst einen Körper (2); eine Brennerplatte (3), die die Durchführung von Gas- und/oder elektrischen Heiz-, Kochprozessen an dem Körper (2) bereitstellt; eine obere Abdeckung (4), die die Brennerplatte (3) abdeckt; mindestens zwei Scharniere (5), die an der Rückseite der Brennerplatte (3) angeordnet sind und die obere Abdeckung (4) mit der Brennerplatte (3) verbinden; **gekennzeichnet ist es durch** eine oder mehrere Klappen, die an der Rückseite der Brennerplatte (3) angeordnet sind und sich in Richtung der oberen Abdeckung (4) erstrecken und mit der oberen Abdeckung (4) in Kontakt kommen, während die obere Abdeckung (4) auf der Brennerplatte (3) geschlossen wird, um die Bewegung der oberen Abdeckung (4) zu verlangsamen.

2. Ein Kochgerät (1), wie in Anspruch 1 aufgeführt, **ist dadurch gekennzeichnet, dass** ein Halter (14) es ermöglicht, die obere Abdeckung (4) an den Scharnieren (5) zu montieren, der entlang der Rückseite der oberen Abdeckung (4) angeordnet ist.

3. Ein Kochgerät (1), wie in Anspruch 1 aufgeführt, **ist dadurch gekennzeichnet, dass** der Dämpfer (6) ein vorzugsweise zylindrisches hohles Gehäuse (7), eine in dem Gehäuse (7) angeordnete Feder (11), einen an der Feder (11) befestigten Stift (8), ein erstes Befestigungselement (12) das die obere Abdeckung (4) des Gehäuses (7) bildet, und ein zweites

Befestigungselement (13), dass die Unterseite des Gehäuses (7) bedeck, umfasst.

4. Ein Kochgerät (1), wie in Anspruch 3 aufgeführt, **ist dadurch gekennzeichnet, dass** der Dämpfer (6) eine Stufe (9) umfasst, die auf dem Stift (8) angeordnet ist, die das Aufsetzen des Stifts (8) auf die Feder (11) ermöglicht und deren Teil bildet, der in dem Gehäuse (7) verbleibt und eine Verlängerung (10), die sich in vertikaler Richtung von der Stufe (9) nach außen erstreckt.

5. Ein Kochgerät (1), wie in den Ansprüchen 1 und 3 aufgeführt, **ist dadurch gekennzeichnet, dass** der Dämpfer (6) an der Brennerplatte (3) befestigt ist, indem er an dem oberen Teil des Gehäuses (7) über den Stift (8) befestigt ist, der an der oberen Seite des Befestigungslochs (15) mittels des ersten Befestigungselements (12) und am unteren Teil des Gehäuses (7), der unter dem Befestigungsloch (15) mittels des zweiten Befestigungselements (13) verbleibt, so dass die Brennerplatte (3) zwischen den ersten und zweiten Befestigungselementen (12 und 13) verbleibt.

6. Ein Kochgerät (1), wie in Anspruch 3 aufgeführt, **ist dadurch gekennzeichnet, dass** die ersten und zweiten Befestigungselemente (12 und 13) Muttern sind.

7. Ein Kochgerät (1), wie in einem der vorher aufgeführten Ansprüche, **ist dadurch gekennzeichnet, dass** es eine obere Glasabdeckung (4) aufweist.

**Revendications**

1. Un appareil de cuisson (1) **comprenant** un corps (2) ; une plaque de brûleur (3) qui assure l'exécution de processus de cuisson à gaz et/ou électriques sur le corps (2) ; un couvercle haut (4) qui couvre la plaque de brûleur (3) ; au moins deux charnières (5) qui sont disposées sur le côté arrière de la plaque de brûleur (3) et qui relient le couvercle haut (4) à la plaque de brûleur (3) ; **caractérisé par** un ou plusieurs amortisseurs (6) qui sont disposés sur le côté arrière de la plaque de brûleur (3), qui s'étendent vers le couvercle supérieur (4) et qui entrent en contact avec le couvercle supérieur (4) pendant que le couvercle supérieur (4) est fermé sur la plaque de brûleur (3) de manière à ralentir le mouvement du couvercle supérieur (4).

2. Appareil de cuisson (1) selon la Déclaration 1, **caractérisé par** un support (14) qui permet au couvercle haut (4) d'être monté sur les charnières (5) et qui est disposé le long du côté arrière du couvercle haut (4).

3. Appareil de cuisson (1) selon la Déclaration 1, **caractérisé par le fait que** l'amortisseur (6) comprend un boîtier creux de préférence cylindrique, (7) un ressort (11) disposé dans le boîtier (7), une goupille (8) fixée sur le ressort (11), un premier élément de fixation (12) formant le couvercle haut (4) du boîtier (7), et un second élément de fixation (13) couvrant la face inférieure du boîtier (7).

4. Appareil de cuisson (1) selon la Déclaration 3, **caractérisé par le fait que** l'amortisseur (6) comprend une marche (9) qui est disposée sur la tige (8), qui permet à la tige (8) d'être placée sur le ressort (11) et qui forme la partie de celui-ci restant dans le boîtier (7), et une extension (10) qui s'étend dans la direction verticale vers l'extérieur de la marche (9).

5. Appareil de cuisson (1) tel que dans les Déclarations 1 et 3, **caractérisé par** le registre (6) qui est fixé à la plaque de brûleur (3) en étant attaché à la partie supérieure du boîtier (7) via la goupille (8) restant sur le côté supérieur du trou de montage (15) au moyen du premier élément de fixation (12) et à la partie inférieure du boîtier (7) restant sous le trou de montage (15) au moyen du second élément de fixation (13) de sorte que la plaque de brûleur (3) reste entre les premier et second éléments de fixation (12 et 13).

6. Appareil de cuisson (1) selon la Déclaration 1, **caractérisé par** les premier et second éléments de fixation (12 et 13) qui sont des écrous.

7. Un appareil de cuisson (1) comme dans l'une quelconque des déclarations ci-dessus, **caractérisé par** le couvercle haut en verre (4).

**Figure 1**

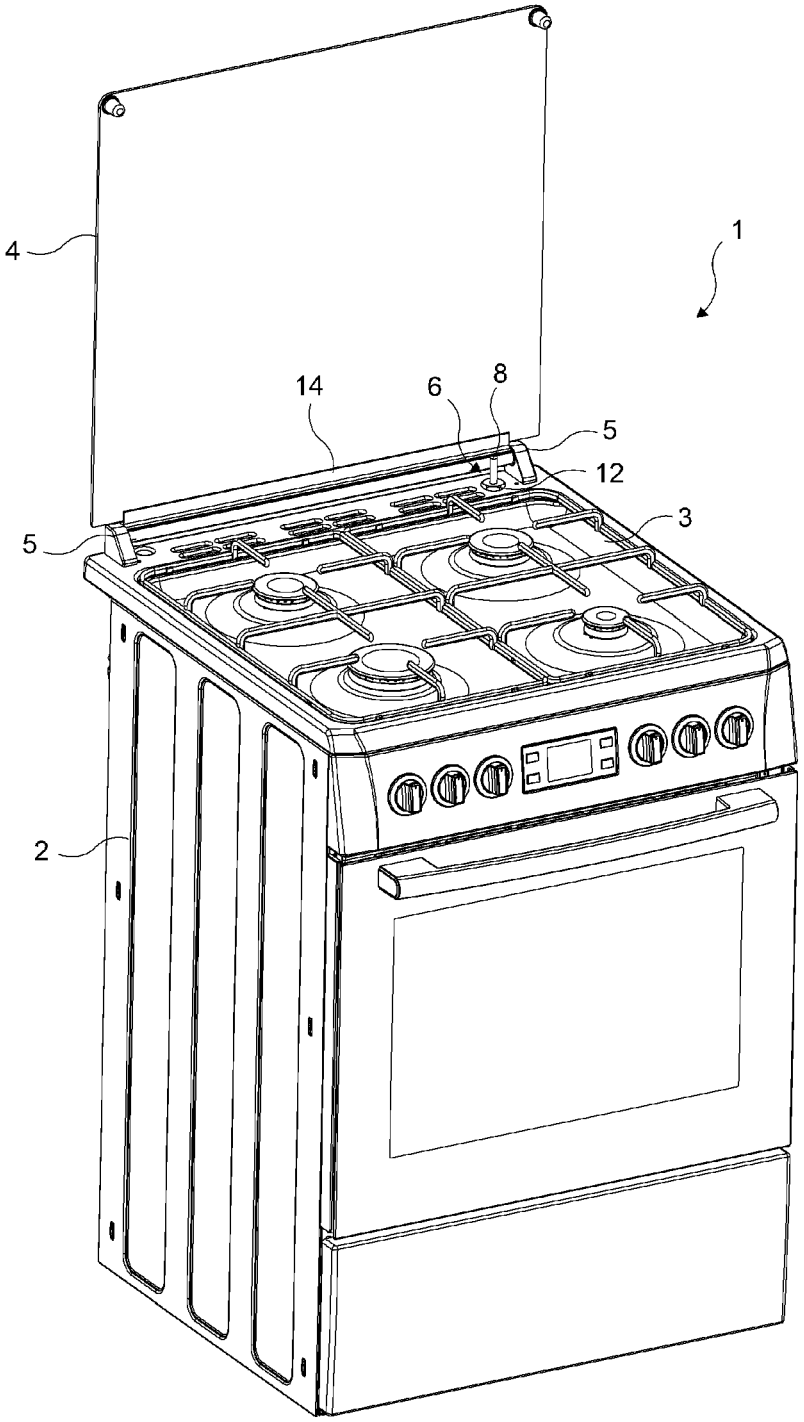


**Figure 2**

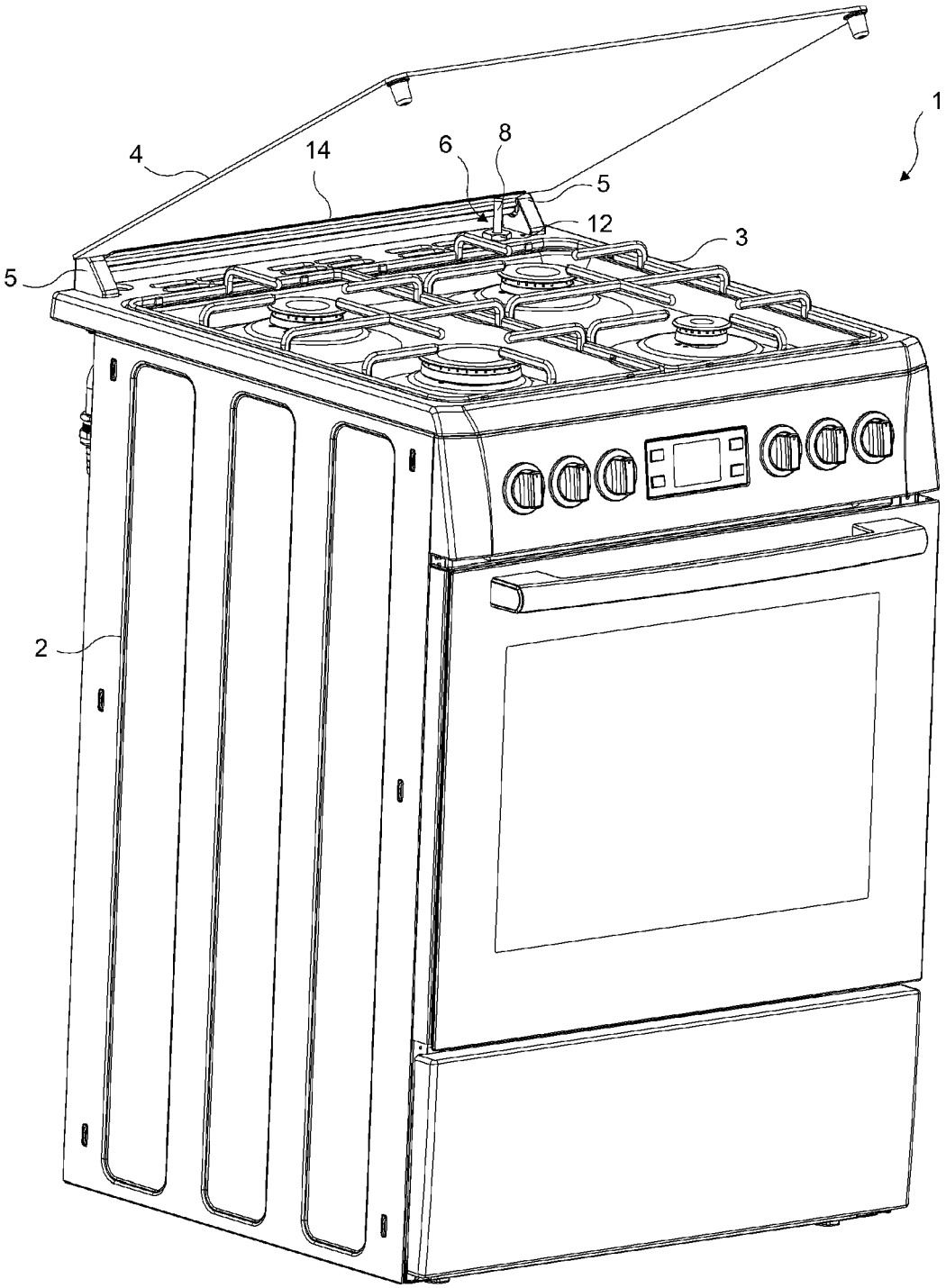


**Figure 3**

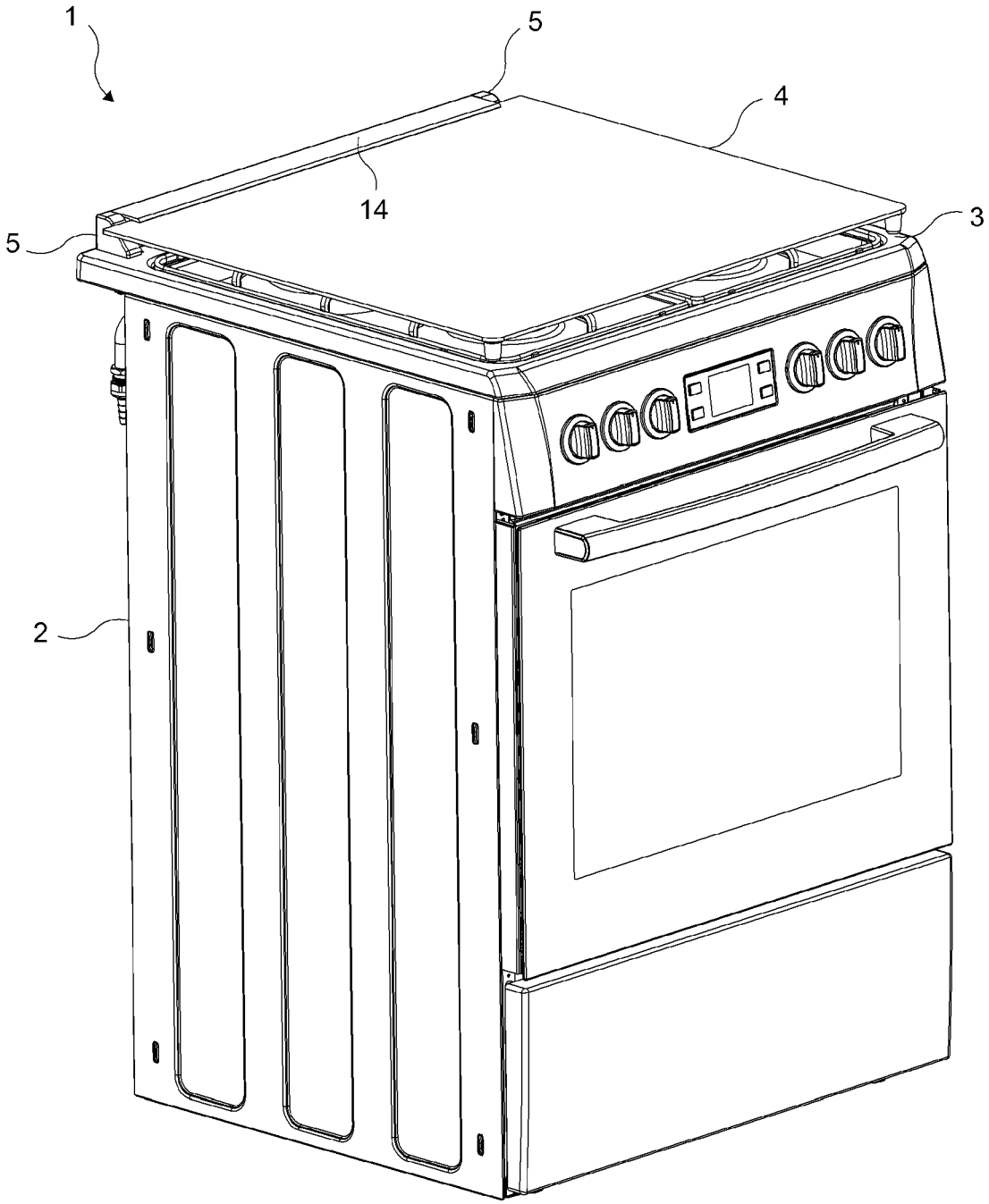


Figure 4

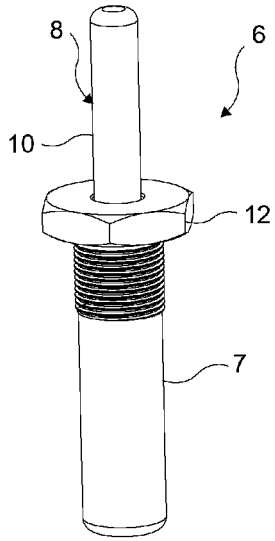



Figure 5

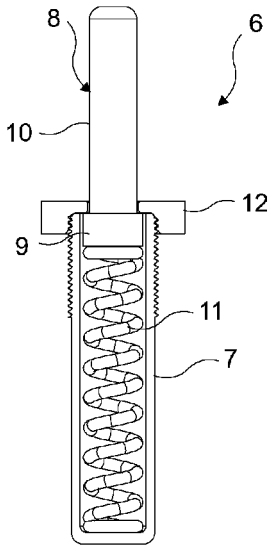



Figure 6

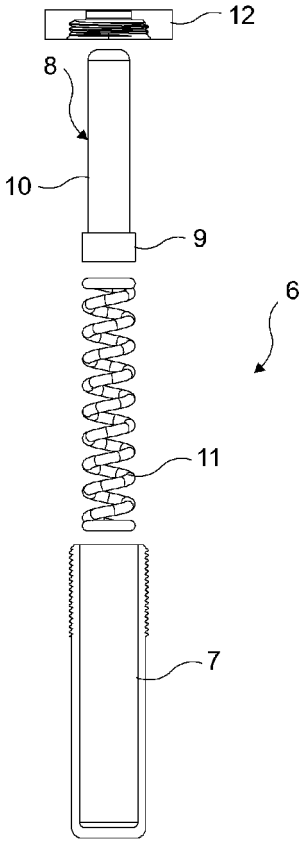


**Figure 7**

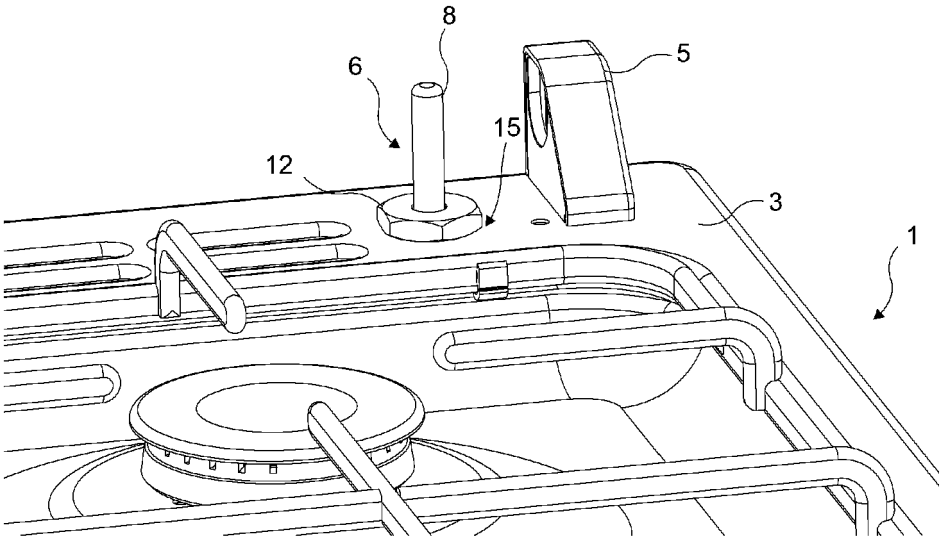



**Figure 8**

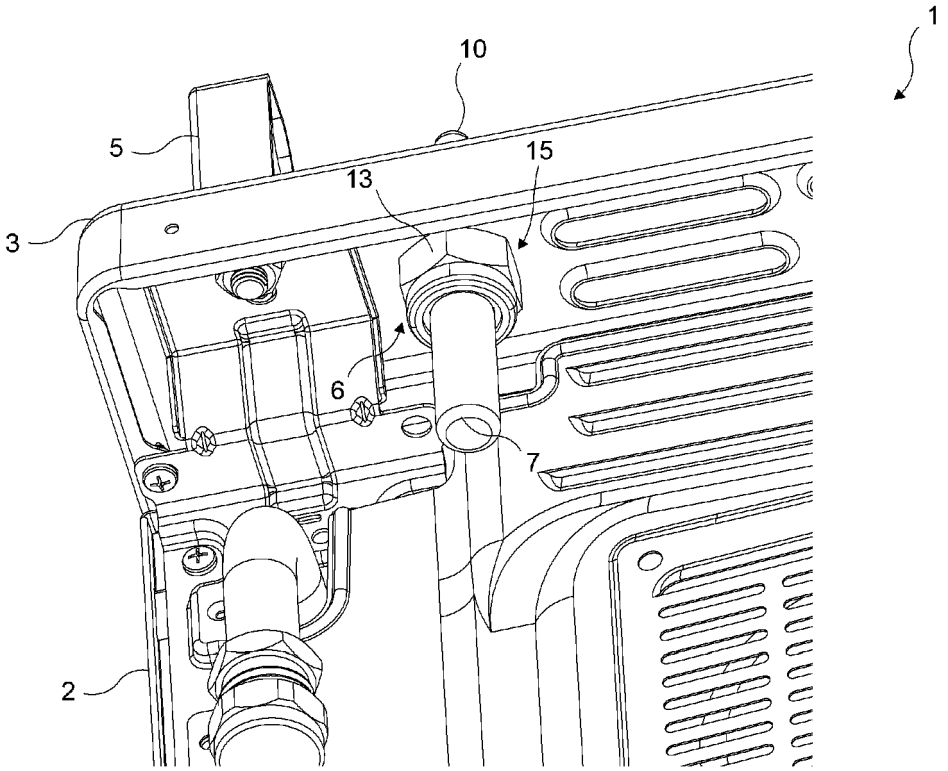


**Figure 9**

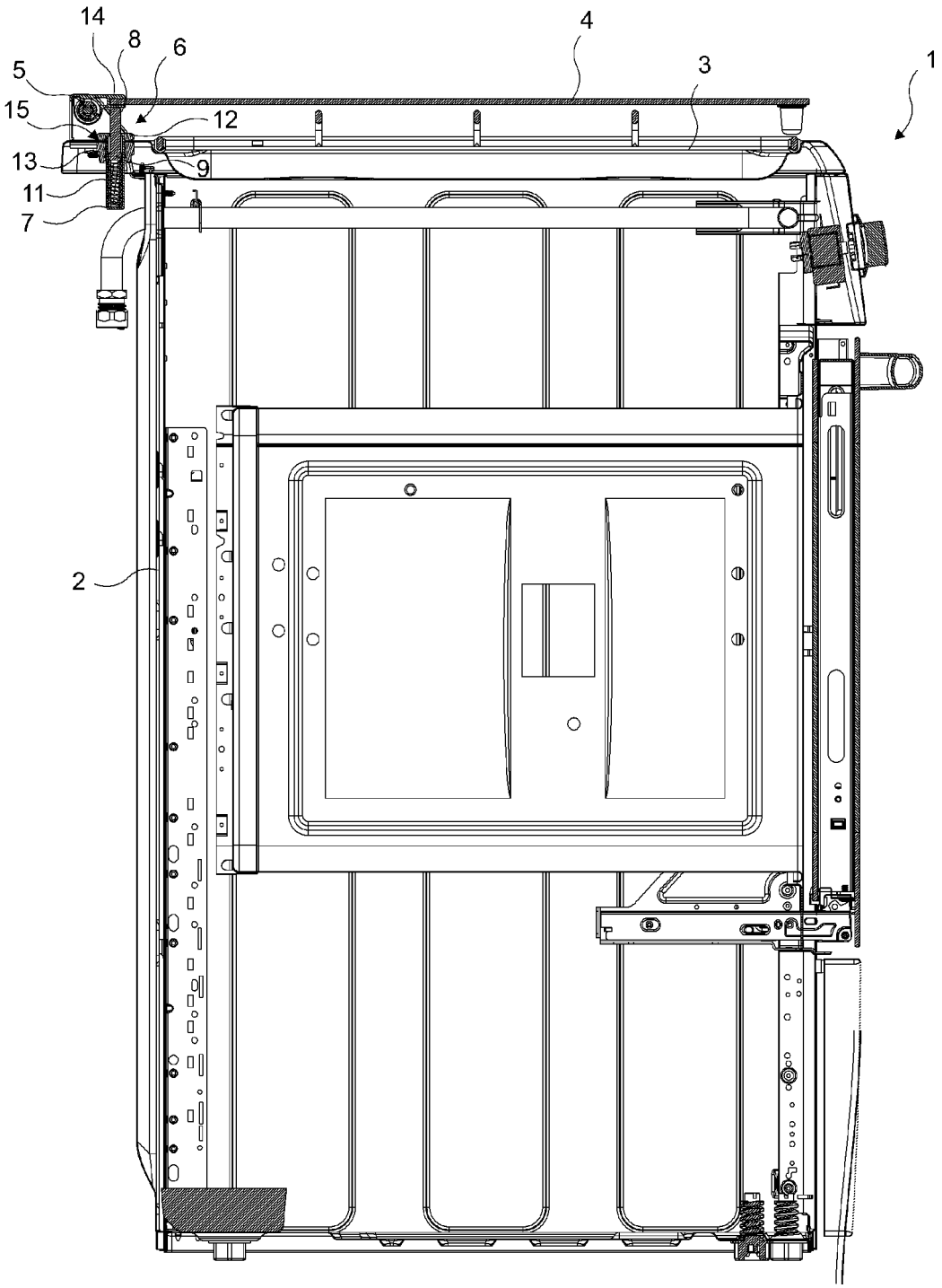
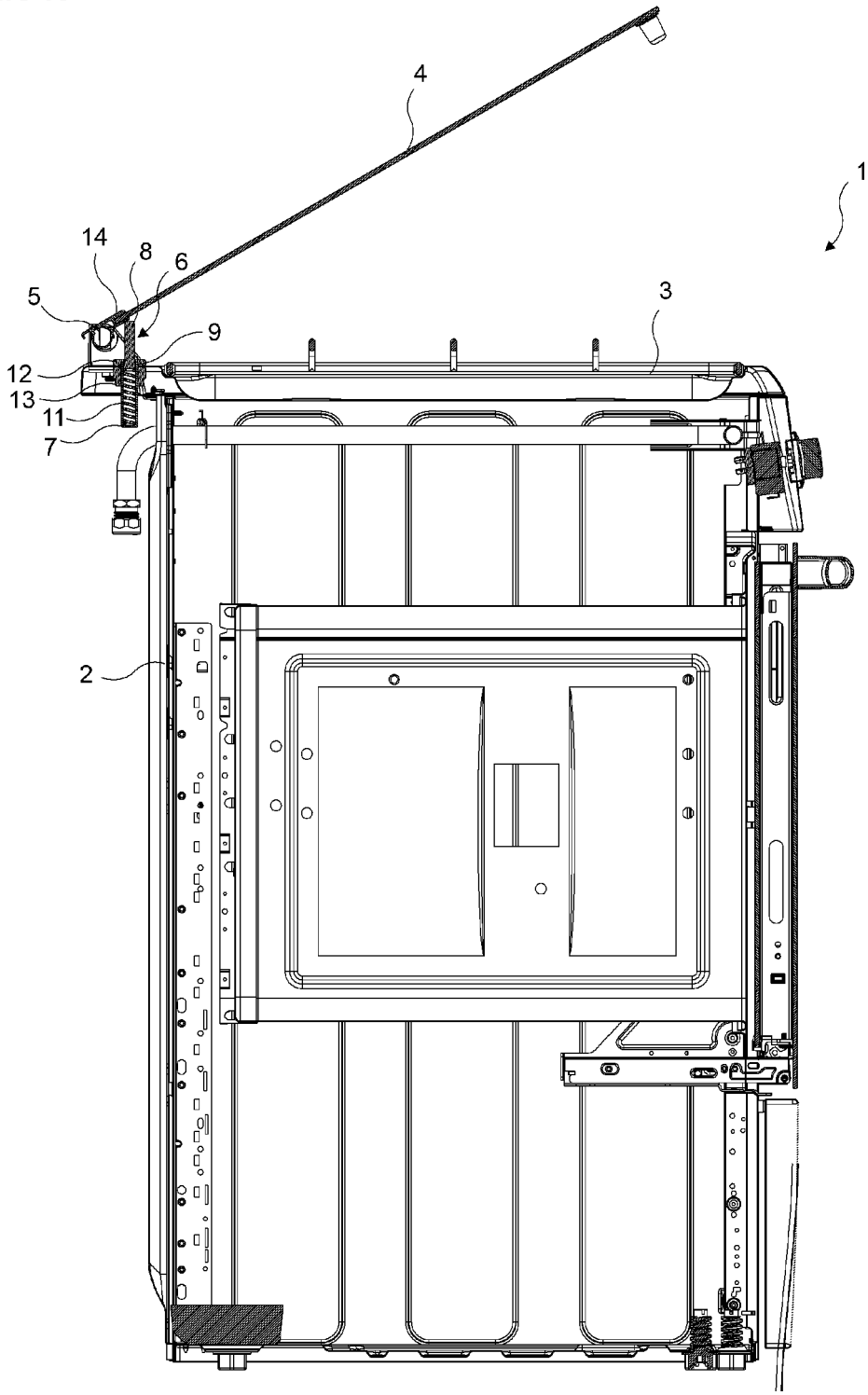


**Figure 10**



## REFERENCES CITED IN THE DESCRIPTION

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