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(54) **An illumination device for a cooking zone element of a cooking hob covered by a transparent panel and a corresponding cooking zone element and cooking hob**

Beleuchtungsvorrichtung für ein Kochzonenelement eines mit einer transparenten Platte bedeckten Kochfelds und zugehöriges Kochzonenelement und Kochfeld

Elément d'illumination pour un élément chauffant muni d'une zone transparente sur la plaque de cuisson et l'élément chauffant

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Description

[0001] The present invention relates to a cooking zone element for a cooking hob covered by a transparent panel according to the preamble of claim 1. Additionally, the present invention relates to a cooking hob with a transparent panel according to the preamble of claim 12.

[0002] The cooking zones on a cooking hob are indicated. Usually, said cooking zones are indicated by printed symbols. Sometimes, the cooking zone includes an illumination device for indicating said cooking zone. Thus, each cooking zone may be indicated by a corresponding illumination device.

[0003] WO 2012/003991 A1 discloses an induction cooking hob with illumination equipment. An intermediate layer is arranged between a panel and a chassis of the induction cooking hob. One or more light emitting diodes are arranged in the centre of the induction coil. The intermediate layer comprises a plurality of cutouts arranged according to a predetermined pattern within the heating zone. The light emitting diode corresponds with at least one cutout.

[0004] However, the operating temperature range of the light emitting diodes is much lower than the temperature in the surrounding of the induction coils.

[0005] EP 2 161 966 A1 discloses an induction heating device. An infrared ray sensor for detecting infrared rays from a cooking container through a top plate is arranged below a central cutout of an induction coil. A light emitting device is placed near the infrared ray sensor and emits light to the back surface of at top plate. The light emitting device is controlled to stop the light emission therefrom, when the heating of the cooking container has been stopped and a predetermined time elapses at the heating-stopped state. This can improve the durability of the light emitting device. The light emitting device indicates the position at which the cooking container should be placed. Further, the light emitting device detects failures in the infrared ray sensor.

[0006] EP 1 596 635 A1 discloses an induction heating cooker including a light-emitting display section formed in a top plate for displaying an output state of an induction heating unit. The light-emitting display section includes a light-emitting element disposed below the top plate. The top plate includes a portion corresponding to the light-emitting element and an induction heating coil. The portion is coated with a light transmissible thin film having such a light-transmittance characteristic that light emitted by the light-emitting element is viewed above the top plate. A cylindrical protector surrounds the light-emitting element and extends from a printed circuit board nearly to the underside of the top plate. A diffuser plate is attached to an upper portion of the protector.

[0007] It is an object of the present invention to provide a cooking zone element, which allows an improved cooling of the light source element.

[0008] The object of the present invention is achieved by the cooking zone element according to claim 1.

[0009] According to the present invention the illumination device includes at least one diffuser screen arranged in an upper portion of the central cutout of the cooking zone element and parallel to the transparent panel of the cooking hob, and the illumination device includes an optical lens enclosing an upper portion of the light source element.

[0010] The main idea of the present invention is that a part of the illumination device is arranged or arrangeable inside the central cutout of the cooking zone element, while another part of the illumination device is arranged or arrangeable below said central cutout. In particular, the arrangement of the light source element below the central cutout of the cooking zone element allows a sufficient cooling of said light source element. The area of the central cutout may be relative small in order to avoid the negative effect on the heat transfer to the centre of a pot arranged above. The height of the illumination device is marginally bigger than the height of the cooking zone element or heating element.

[0011] Preferably, the illumination device includes at least one conical light guide formed as a conical tube and arranged or arrangeable inside the central cutout of the cooking zone element.

[0012] Further, the diffuser screen may cover a top side of the conical light guide. The conical light guide and the diffuser screen allow a large illumination area in relation to the base area of the central cutout.

[0013] According to a preferred embodiment of the present invention the illumination device includes at least one printed circuit board arranged or arrangeable below the central cutout of the cooking zone element, wherein the light source element is arranged on said printed circuit board.

[0014] For example, the printed circuit board is an insulated metal substrate (IMS) aluminium printed circuit board.

[0015] Alternatively, the diffuser screen is made of heat resistant ceramic material.

[0016] Further, the diffuser screen may be made of a semi-transparent material.

[0017] For example, the diffuser screen is made of a sand blasted glass ceramic material.

[0018] Moreover, a light shaping layer may be arranged above the diffuser screen.

[0019] Alternatively, the light shaping layer may be printed on the diffuser screen.

[0020] Further, the heating element may be formed as a circular disk.

[0021] According to the present invention the illumination device is arranged inside and below the central cutout.

[0022] Thus, a part of the illumination device is arranged or arrangeable inside the central cutout of the cooking zone element, while another part of the illumination device is arranged or arrangeable below said central cutout. The arrangement of the light source element below the central cutout of the cooking zone element

allows a sufficient cooling of said light source element.

[0023] For example, the heating element is an induction coil.

[0024] Alternatively, the heating element is a thick film heating element.

[0025] Additionally, the present invention relates to a cooking hob with a transparent panel, in particular a glass ceramic panel and at least one cooking zone element, wherein the cooking hob comprises at least one cooking zone element mentioned above and/or at least one illumination device as described above.

[0026] According to another example, the light shaping layer is a coloured coating on the bottom side of the transparent panel or glass ceramic panel.

[0027] Alternatively, the light shaping layer is a non-transparent heat resistant foil with cutouts on the bottom side of the transparent panel or glass ceramic panel.

[0028] At last, the cooking hob may include at least one cooling fan for generating an air stream in order to cool the light source element of the illumination device.

[0029] Novel and inventive features of the present invention are set forth in the appended claims.

[0030] The present invention will be described in further detail with reference to the drawings, in which

FIG 1 illustrates a perspective view of a cooking zone element with an illumination device according to a preferred embodiment of the present invention,

FIG 2 illustrates a schematic top view of the cooking zone element with the illumination device according to the preferred embodiment of the present invention,

FIG 3 illustrates a sectional side view of the cooking zone element with the illumination device along the line III-III in FIG 2 according to the preferred embodiment of the present invention,

FIG 4 illustrates a sectional side view of the cooking zone element with the illumination device along the line IV-IV in FIG 2 according to the preferred embodiment of the present invention,

FIG 5 illustrates a set of exploded views of the illumination device and its components according to the preferred embodiment of the present invention,

FIG 6 illustrates a detailed sectional side view of the illumination device arranged in the cooking zone element according to the preferred embodiment of the present invention, and

FIG 7 illustrates a perspective view of a chassis of a cooking hob including four cooking zone elements according to the preferred embodiment of the present invention.

[0031] FIG 1 illustrates a perspective view of a cooking zone element 10 with an illumination device 20 according to a preferred embodiment of the present invention. The cooking zone element 10 is provided for a cooking hob covered by a panel, in particular by a glass ceramic panel.

[0032] The cooking zone element 10 is substantially formed as a circular disk with a central cutout 40. The cooking zone element 10 includes a heating element 12. The heating element 12 may be an induction coil, a thick film heating element or another heating element. The heating element 12 is formed as a circular disk and includes also the central cutout 40. When the cooking zone element 10 is arranged in the cooking hob, then said cooking zone element 10 and the heating element 12 extend in a horizontal plane. A top side and a bottom side of the central cutout are open. The illumination device 20 is arranged inside the central cutout 40. The illumination device 20 comprises a diffuser screen 14. The diffuser screen 14 forms the top side of the illumination device 20. The diffuser screen 14 closes completely or nearly the top side of the central cutout 40. The diffuser screen 14 is substantially a circular disk.

[0033] The diffuser screen 14 includes a cut formed as a sector of a circle. A temperature sensor 16 is arranged within the cut of the diffuser screen 14. An elongated heat conducting element 18 extends from the temperature sensor 16 horizontally on the top side of the heating element 12. The length of the heat conducting element 18 is about the half radius of the cooking zone element 10 and/or the heating element 12.

[0034] Further, the cooking zone element 10 includes two power cables 22 and a sensor cable 24. The power cables 22 are provided for supplying the heating element 12. The sensor cable 24 is provided for connecting the temperature sensor 16 to a control unit of the cooking hob. The sensor cable 24 may include one or two wires. Preferably, the sensor cable 24 includes two wires.

[0035] FIG 2 illustrates a schematic top view of the cooking zone element 10 with the illumination device 20 according to the preferred embodiment of the present invention. The heating element 12 and the central cutout 40 have a circular base area in each case. The circular diffuser screen 14 includes the cut, in which the temperature sensor 16 is arranged. The length of the heat conducting element 18 corresponds with the half radius of the cooking zone element 10 and/or the heating element 12.

[0036] FIG 3 illustrates a sectional side view of the cooking zone element 10 with the illumination device 20 along the line III-III in FIG 2 according to the preferred embodiment of the present invention.

[0037] The shape of the central cutout 40 is shown in FIG 3. The central cutout 40 is substantially formed as a truncated cone arranged upside-down. Thus, the bigger circular surface of the truncated cone forms the top side of the central cutout 40. In a similar way, the smaller

circular surface of the truncated cone forms the bottom side of the central cutout 40.

[0038] The illumination device 20 is substantially arranged inside the central cutout 40. A smaller lower part of the illumination device 20 is arranged below the central cutout 40. The illumination device 20 includes a conical light guide 26. The conical light guide 26 is formed as a conical tube with an upper open end and a lower open end. The upper open end of the conical light guide 26 is bigger than the lower open end. The shape of the conical light guide 26 corresponds with the shape of the central cutout 40. The upper open end of the conical light guide 26 is covered by the diffuser screen 14.

[0039] FIG 4 illustrates a sectional side view of the cooking zone element 10 with the illumination device 20 along the line IV-IV in FIG 2 according to the preferred embodiment of the present invention. FIG 4 clarifies that the temperature sensor 16 and the heat conducting element 18 are arranged on the top side of the cooking zone element 10. The temperature sensor 16 and the heat conducting element 18 are substantially arranged at the same level as the diffuser screen 14. Further, the shape of the conical light guide 26 corresponds with the shape of the central cutout 40.

[0040] FIG 5 illustrates a set of exploded views of the illumination device 20 and its components according to the preferred embodiment of the present invention.

[0041] The circular diffuser screen 14 includes the cut formed as the sector of a circle. The heat conducting element 18 is elongated and comprises a U-shaped end portion for receiving the temperature sensor 16. The temperature sensor 16 is connected to the sensor cable 24. In this example, the sensor cable 24 includes two wires.

[0042] The conical light guide 26 is formed as the conical tube with the upper open end and the lower open end. The upper open end of the conical light guide 26 is covered by the diffuser screen 14. The heat conducting element 18 is fixable at the conical light guide 26, wherein the temperature sensor 16 is received by the U-shaped end portion of said heat conducting element 18.

[0043] FIG 6 illustrates a detailed sectional side view of the illumination device 20 arranged in the cooking zone element 10 according to the preferred embodiment of the present invention. The conical light guide 26 with the diffuser screen 14, the heat conducting element 18 and the temperature sensor 16 are arranged inside the central cutout 40 of the cooking zone element 10.

[0044] Further, the illumination device 20 includes a light source element 30, an optical lens 28 and a printed circuit board 32. In this example, the light source element 30 is a light emitting diode (LED). Alternatively, the light source element 30 may be an ensemble of light emitting diodes. The light source element 30 is installed on the printed circuit board 32. The optical lens 28 encloses the upper portion of the light source element 30. The light source element 30, the optical lens 28 and the printed circuit board 32 are arranged below the central cutout 40 of the cooking zone element 10.

[0045] The arrangement of the light source element 30, the optical lens 28 and the printed circuit board 32 below the central cutout 40 of the cooking zone element 10 allows a relative low temperature around the light source element 30. This increases the lifetime of the light source element 30 and the predetermined light distribution.

[0046] The conical light guide 26 allows a large illumination area in relation to the area of the central cutout 40. Thus, the area of the central cutout 40 may be relative small in order to avoid the negative effect on the heat transfer to the centre of a pot. The height of the illumination device 20 is marginally bigger than the height of the cooking zone element 10 or heating element 12.

[0047] The illumination area above the central cutout 40 is relative large, so that different illuminated shapes can be realized. For example, said illuminated shapes may be a cross, a symbol or a brand name.

[0048] FIG 7 illustrates a perspective view of a chassis 34 of a cooking hob including four cooking zone elements 10 according to the preferred embodiment of the present invention.

[0049] The chassis 34 includes a casing 36 with a bottom wall and four side walls. The four cooking zone elements 10 are arranged on the bottom wall of the casing 36. Further, a user interface 38 is arranged on the bottom wall of the casing 36. The four cooking zone elements 10 and the user interface 38 are inside the casing 36. In other words, the chassis 34 is the cooking hob without the glass panel.

[0050] Although an illustrative embodiment of the present invention has been described herein with reference to the accompanying drawing, it is to be understood that the present invention is not limited to that precise embodiment, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope of the invention. All such changes and modifications are intended to be included within the scope of the invention as defined by the appended claims.

List of reference numerals

[0051]

10	cooking zone element
12	heating element
14	diffuser screen
16	temperature sensor
18	heat conducting element
20	illumination device
22	power cable
24	sensor cable
26	conical light guide
28	optical lens
30	light source element, light emitting diode (LED)
32	printed circuit board
34	chassis

36 casing
38 user interface
40 central cutout

Claims

1. A cooking zone element (10) for a cooking hob covered by a transparent panel, wherein:

- the cooking zone element (10) comprises a heating element (12),
- the cooking zone element (10) comprises a central cutout (40) in a central portion of said cooking zone element (10) and heating element (12),
- the cooking zone element (10) comprises an illumination device (20) arranged inside and below the central cutout (40), and
- the illumination device (20) includes at least one light source element (30) arranged below the central cutout (40) of the cooking zone element (10),

characterized in, that
the illumination device (20) includes at least one diffuser screen (14) arranged in an upper portion of the central cutout (40) of the cooking zone element (10) and parallel to the transparent panel of the cooking hob, and the illumination device (20) includes an optical lens (28) enclosing an upper portion of the light source element (30).

2. The cooking zone element according to claim 1,
characterized in, that
the illumination device (20) includes at least one conical light guide (26) formed as a conical tube and arranged or arrangeable inside the central cutout of the cooking zone element (10).

3. The cooking zone element according to claim 2,
characterized in, that
the diffuser screen (14) covers a top side of the conical light guide (26).

4. The cooking zone element according to any one of the preceding claims,
characterized in, that
the illumination device (20) includes at least one printed circuit board (32) arranged or arrangeable below the central cutout (40) of the cooking zone element (10), wherein the light source element (30) is arranged on said printed circuit board (32).

5. The cooking zone element according to claim 4,
characterized in, that
the printed circuit board (32) is an insulated metal substrate (IMS) aluminium printed circuit board.

6. The cooking zone element according to any one of the preceding claims,
characterized in, that
the diffuser screen (16) is made of a semi-transparent material, a heat resistant ceramic material and/or a sand blasted glass ceramic material.

7. The cooking zone element according to any one of the preceding claims,
characterized in, that
a light shaping layer is arranged above the diffuser screen (16), wherein the light shaping layer is a coloured coating or a non-transparent heat resistant foil with cutouts.

8. The cooking zone element according to any one of the claims 1 to 6,
characterized in, that
a light shaping layer is printed on the diffuser screen (16), wherein the light shaping layer is a coloured coating or a non-transparent heat resistant foil with cutouts.

9. The cooking zone element according to any one of the preceding claims,
characterised in that
the heating element (12) is formed as a circular disk.

10. The cooking zone element according to any one of the preceding claims,
characterized in, that
the heating element (12) is an induction coil.

11. The cooking zone element according to any one of the preceding claims,
characterized in, that
the heating element (12) is a thick film heating element.

12. A cooking hob with a transparent panel, in particular a glass ceramic panel and at least one cooking zone element (10),
characterized in, that
the cooking hob comprises at least one cooking zone element (10) according to any one of the claims 1 to 11.

13. The cooking hob according to claim 12,
characterized in, that
the light shaping layer is a coloured coating or a non-transparent heat resistant foil with cutouts on the bottom side of the transparent panel or glass ceramic panel.

14. The cooking hob according to claim 12 or 13,
characterized in, that
the cooking hob includes at least one cooling fan for generating an air stream in order to cool the light

source element (30) of the illumination device (20).

Patentansprüche

1. Kochzonenelement (10) für ein von einer transparenten Platte bedecktes Kochfeld, wobei:

   - das Kochzonenelement (10) ein Heizelement (12) umfasst,
   - das Kochzonenelement (10) einen mittleren Ausschnitt (40) in einem mittleren Abschnitt des Kochzonenelements (10) und des Heizelements (12) umfasst,
   - das Kochzonenelement (10) eine Beleuchtungsvorrichtung (20) umfasst, die innerhalb und unterhalb des Ausschnitts (40) angeordnet ist, und
   - die Beleuchtungsvorrichtung (20) mindestens ein Lichtquellenelement (30) aufweist, das unterhalb des zentralen Ausschnitts (40) des Kochzonenelements (10) angeordnet ist,

   dadurch gekennzeichnet, dass
   die Beleuchtungsvorrichtung (20) mindestens eine Diffuserscheibe (14) aufweist, die in einem oberen Abschnitt des zentralen Ausschnitts (40) des Kochzonenelements (10) und parallel zu der transparenten Platte des Kochfelds angeordnet ist, und die Beleuchtungsvorrichtung (20) eine optische Linse (28) aufweist, die einen oberen Abschnitt des Lichtquellenelements (30) umgibt.

2. Kochzonenelement nach Anspruch 1,
   dadurch gekennzeichnet, dass
   die Beleuchtungsvorrichtung (20) mindestens einen konischen Lichtleiter (26) aufweist, der als konisches Rohr ausgebildet ist und innerhalb des mittleren Ausschnitts des Kochzonenelements (10) angeordnet oder anordnungsfähig ist.

3. Kochzonenelement nach Anspruch 2,
   dadurch gekennzeichnet, dass
   die Diffuserscheibe (14) eine obere Seite des konischen Lichtleiters (26) bedeckt.

4. Kochzonenelement nach einem der vorhergehenden Ansprüche,
   dadurch gekennzeichnet, dass
   die Beleuchtungsvorrichtung (20) mindestens eine gedruckte Leiterplatte (32) aufweist, die unterhalb des zentralen Ausschnitts (40) des Kochzonenelements (10) angeordnet oder anordnungsfähig ist, wobei das Lichtquellenelement (30) auf der gedruckten Leiterplatte (32) angeordnet ist.

5. Kochzonenelement nach Anspruch 4,
   dadurch gekennzeichnet, dass
   die gedruckte Leiterplatte (32) eine gedruckte Isoliertes-Metallsubstrat(IMS)-Aluminium-Leiterplatte ist.

6. Kochzonenelement nach einem der vorhergehenden Ansprüche,
   dadurch gekennzeichnet, dass
   die Diffuserscheibe (16) aus einem halbtransparenten Material, einem wärmebeständigen Keramikmaterial und/oder einem sandgestrahlten Glaskeramikmaterial gefertigt ist.

7. Kochzonenelement nach einem der vorhergehenden Ansprüche,
   dadurch gekennzeichnet, dass
   eine Lichtformschicht oberhalb der Diffuserscheibe (16) angeordnet ist, wobei die Lichtformschicht eine farbige Beschichtung oder eine nichttransparente wärmebeständige Folie mit Ausschnitten ist.

8. Kochzonenelement nach einem der Ansprüche 1 bis 6,
   dadurch gekennzeichnet, dass
   eine Lichtformschicht auf die Diffuserscheibe (16) gedruckt ist, wobei die Lichtformschicht eine farbige Beschichtung oder eine nichttransparente wärmebeständige Folie mit Ausschnitten ist.

9. Kochzonenelement nach einem der vorhergehenden Ansprüche,
   dadurch gekennzeichnet, dass
   das Heizelement (12) als kreisförmige Platte ausgebildet ist.

10. Kochzonenelement nach einem der vorhergehenden Ansprüche,
    dadurch gekennzeichnet, dass
    das Heizelement (12) eine Induktionsspule ist.

11. Kochzonenelement nach einem der vorhergehenden Ansprüche,
    dadurch gekennzeichnet, dass
    das Heizelement (12) ein Dickschicht-Heizelement ist

12. Kochfeld mit einer transparenten Platte, insbesondere einer Glaskeramikplatte, und mindestens einem Kochzonenelement (10),
    dadurch gekennzeichnet, dass
    das Kochfeld mindestens ein Kochzonenelement (10) nach einem der Ansprüche 1 bis 11 umfasst.

13. Kochfeld nach Anspruch 12,
    dadurch gekennzeichnet, dass
    die Lichtformschicht eine farbige Beschichtung oder eine nichttransparente wärmebeständige Folie mit Ausschnitten auf der unteren Seite der transparenten Platte oder der Glaskeramikplatte ist.

14. Kochfeld nach Anspruch 12 oder 13,
dadurch gekennzeichnet, dass
das Kochfeld mindestens ein Kühlgebläse zum Erzeugen eines Luftstroms zum Kühlen des Lichtquellenelements (30) der Beleuchtungsvorrichtung (20) aufweist.

Revendications

1. Élément de zone de cuisson (10) pour une plaque de cuisson recouverte d'un panneau transparent, dans lequel :

- l'élément de zone de cuisson (10) comprend un élément chauffant (12),
- l'élément de zone de cuisson (10) comprend une découpe centrale (40) dans une partie centrale desdits élément de zone de cuisson (10) et élément chauffant (12),
- l'élément de zone de cuisson (10) comprend un dispositif d'éclairage (20) disposé à l'intérieur et au-dessous de la découpe centrale (40), et
- le dispositif d'éclairage (20) comporte au moins un élément source de lumière (30) disposé au-dessous de la découpe centrale (40) de l'élément de zone de cuisson (10),

caractérisé en ce que
le dispositif d'éclairage (20) comporte au moins un écran diffusant (14) disposé dans une partie supérieure de la découpe centrale (40) de l'élément de zone de cuisson (10) et parallèle au panneau transparent de la plaque de cuisson, et le dispositif d'éclairage (20) comporte une lentille optique (28) entourant une partie supérieure de l'élément source de lumière (30).

2. Élément de zone de cuisson selon la revendication 1,
caractérisé en ce que
le dispositif d'éclairage (20) comporte au moins un guide de lumière conique (26) formé comme un tube conique et disposé ou disposable à l'intérieur de la découpe centrale de l'élément de zone de cuisson (10).

3. Élément de zone de cuisson selon la revendication 2,
caractérisé en ce que
l'écran diffusant (14) recouvre un côté supérieur du guide de lumière conique (26).

4. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
le dispositif d'éclairage (20) comporte au moins une carte de circuit imprimé (32) disposée ou disposable au-dessous de la découpe centrale (40) de l'élément de zone de cuisson (10), l'élément source de lumière (30) étant disposé sur ladite carte de circuit imprimé (32).

5. Élément de zone de cuisson selon la revendication 4,
caractérisé en ce que
la carte de circuit imprimé (32) est une carte de circuit imprimé à substrat métallique isolé (IMS) en aluminium.

6. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
l'écran diffusant (16) est constitué d'un matériau semi-transparent, d'un matériau céramique thermorésistant et/ou d'un matériau vitrocéramique sablé.

7. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
une couche de façonnage de la lumière est disposée au-dessus de l'écran diffusant (16), la couche de façonnage de la lumière étant un revêtement coloré ou une feuille non transparente thermorésistante avec des découpes.

8. Élément de zone de cuisson selon l'une quelconque des revendications 1 à 6,
caractérisé en ce que
une couche de façonnage de la lumière est imprimée sur l'écran diffusant (16), la couche de façonnage de la lumière étant un revêtement coloré ou une feuille non transparente thermorésistante avec des découpes.

9. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
l'élément chauffant (12) est formé comme un disque circulaire.

10. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
l'élément chauffant (12) est une bobine d'induction.

11. Élément de zone de cuisson selon l'une quelconque des revendications précédentes,
caractérisé en ce que
l'élément chauffant (12) est un élément chauffant en couche épaisse.

12. Plaque de cuisson avec un panneau transparent, en particulier un panneau vitrocéramique et au moins un élément de zone de cuisson (10),
caractérisée en ce que
la plaque de cuisson comprend au moins un élément de zone de cuisson (10) selon l'une quelconque des revendications 1 à 11.

13. Plaque de cuisson selon la revendication 12, **caractérisée en ce que** la couche de façonnage de la lumière est un revêtement coloré ou une feuille non transparente thermorésistante avec des découpes sur le côté inférieur du panneau transparent ou du panneau vitrocéramique.

14. Plaque de cuisson selon la revendication 12 ou 13, **caractérisée en ce que** la plaque de cuisson comporte au moins un ventilateur de refroidissement pour générer un courant d'air afin de refroidir l'élément source de lumière (30) du dispositif d'éclairage (20).

FIG 1

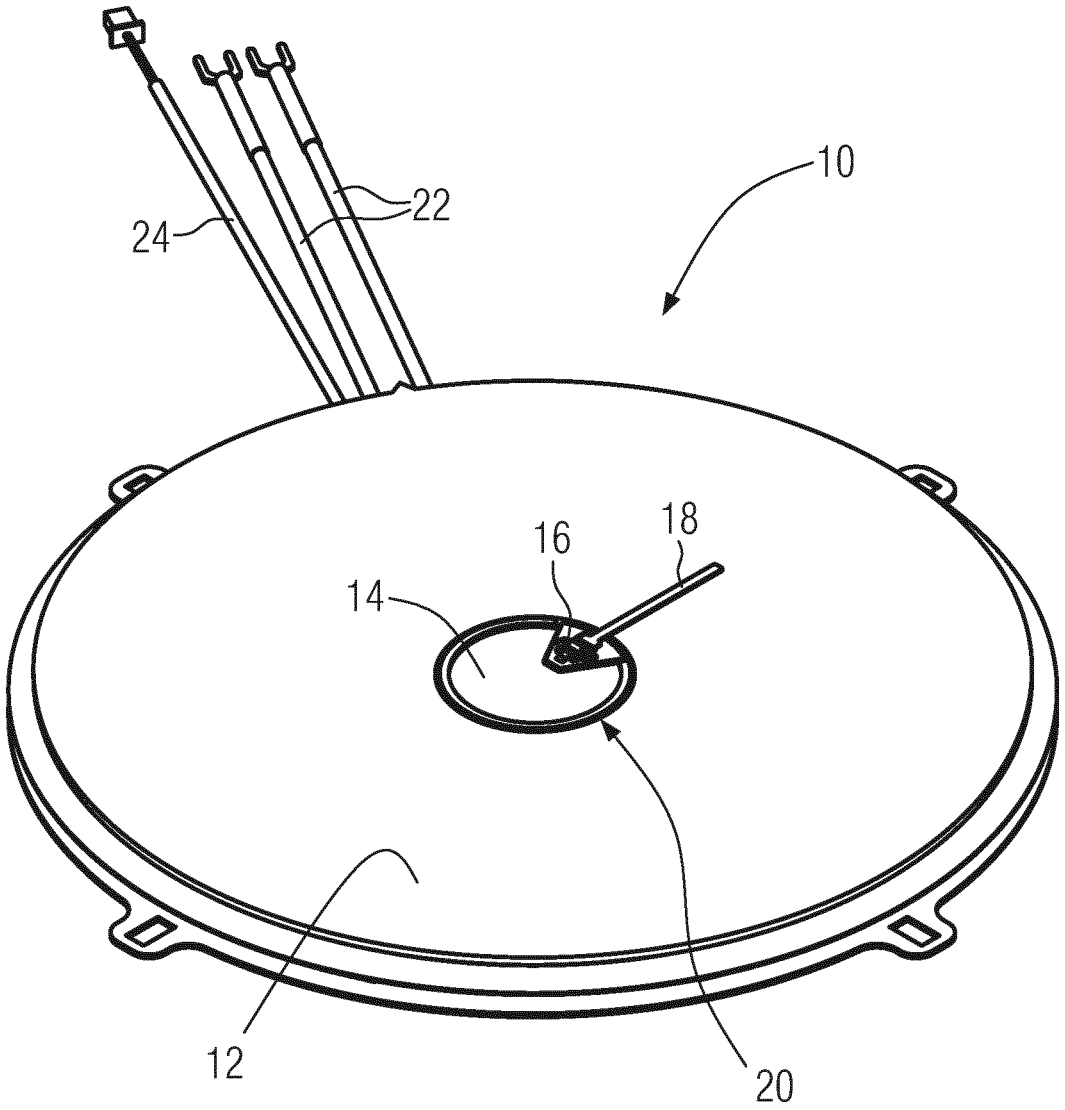


FIG 2

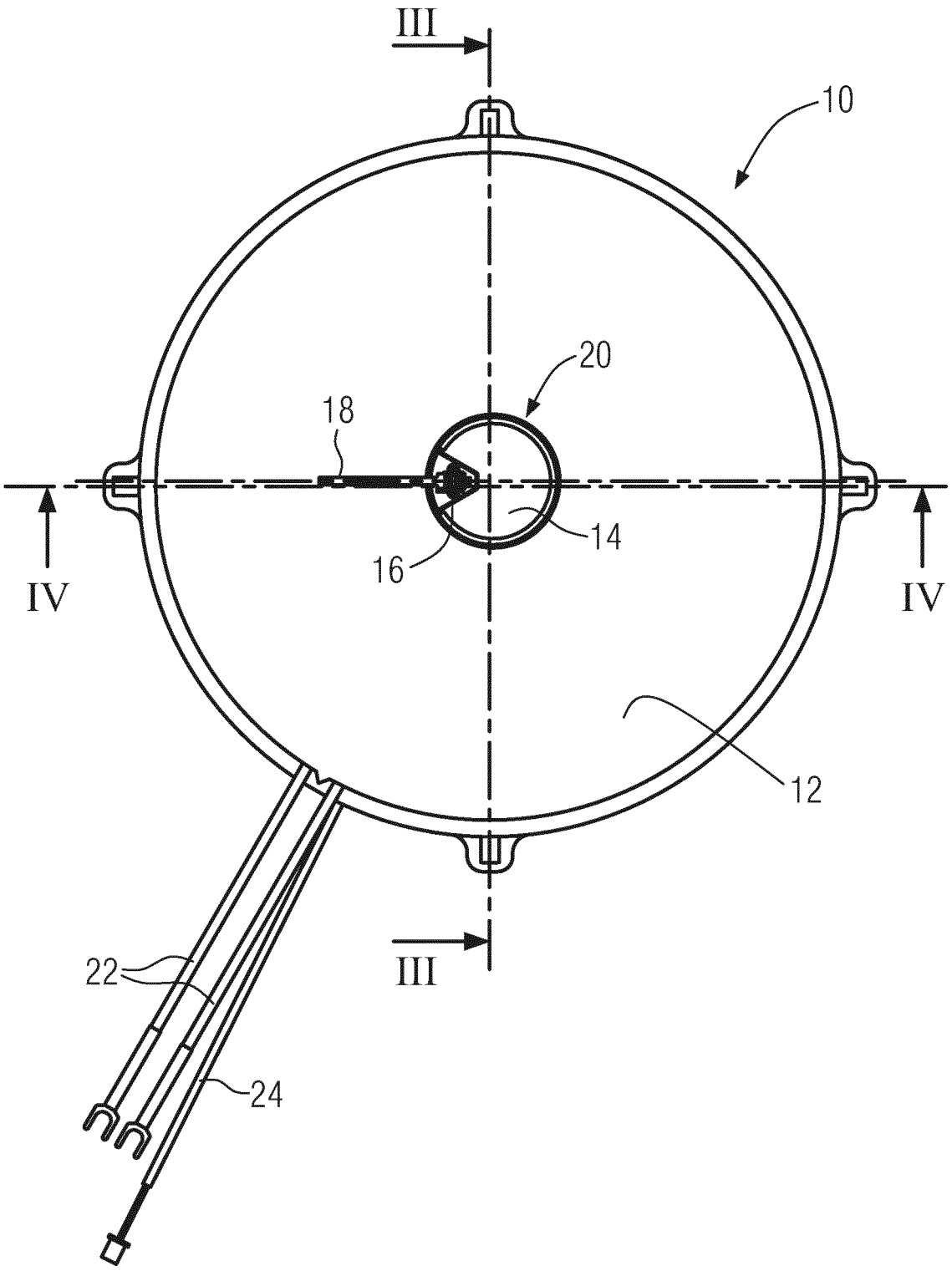


FIG 3

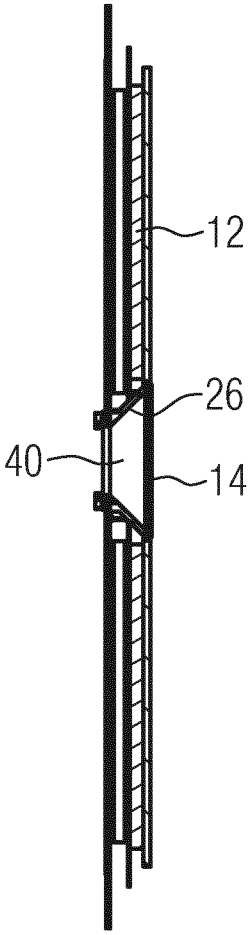
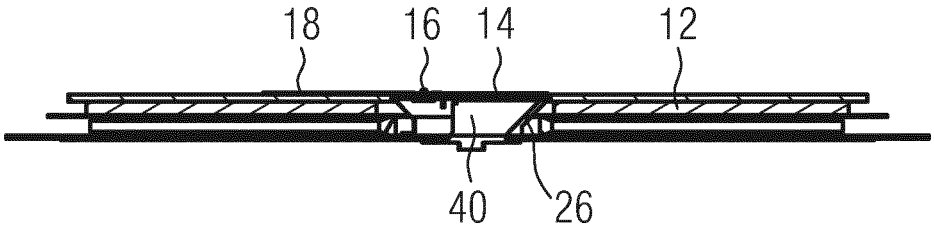


FIG 4



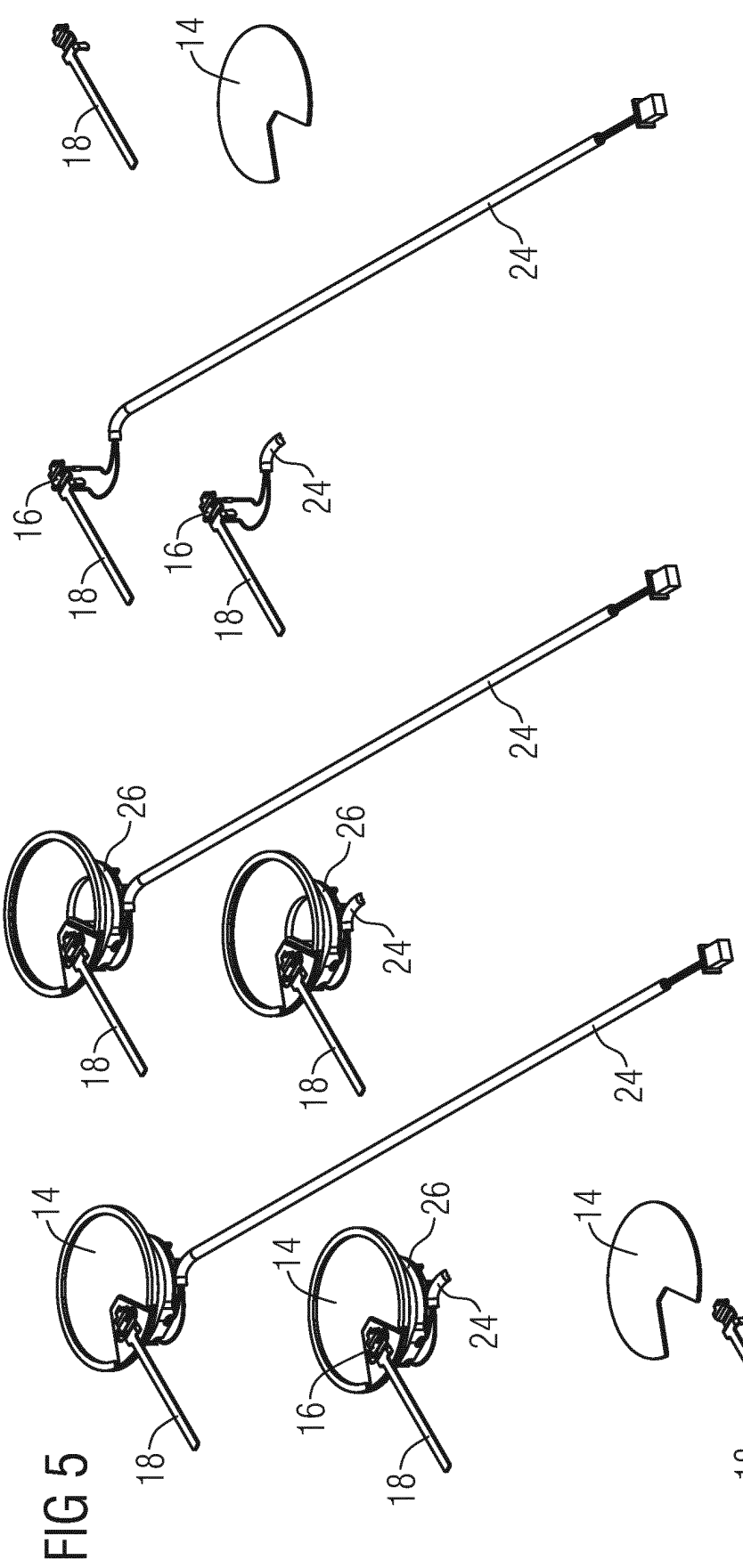

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FIG 5

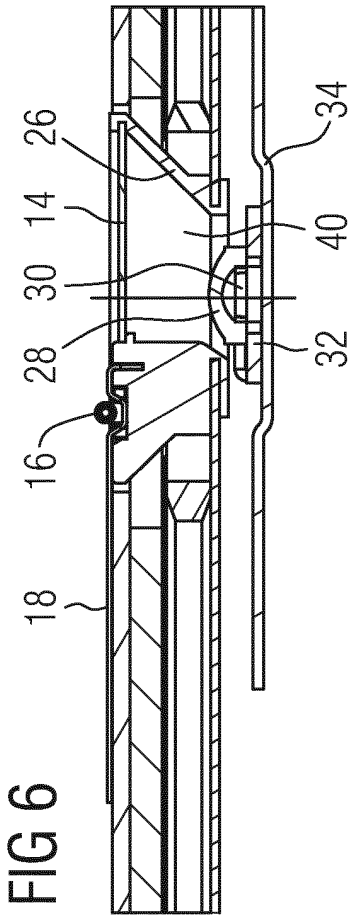
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FIG 6

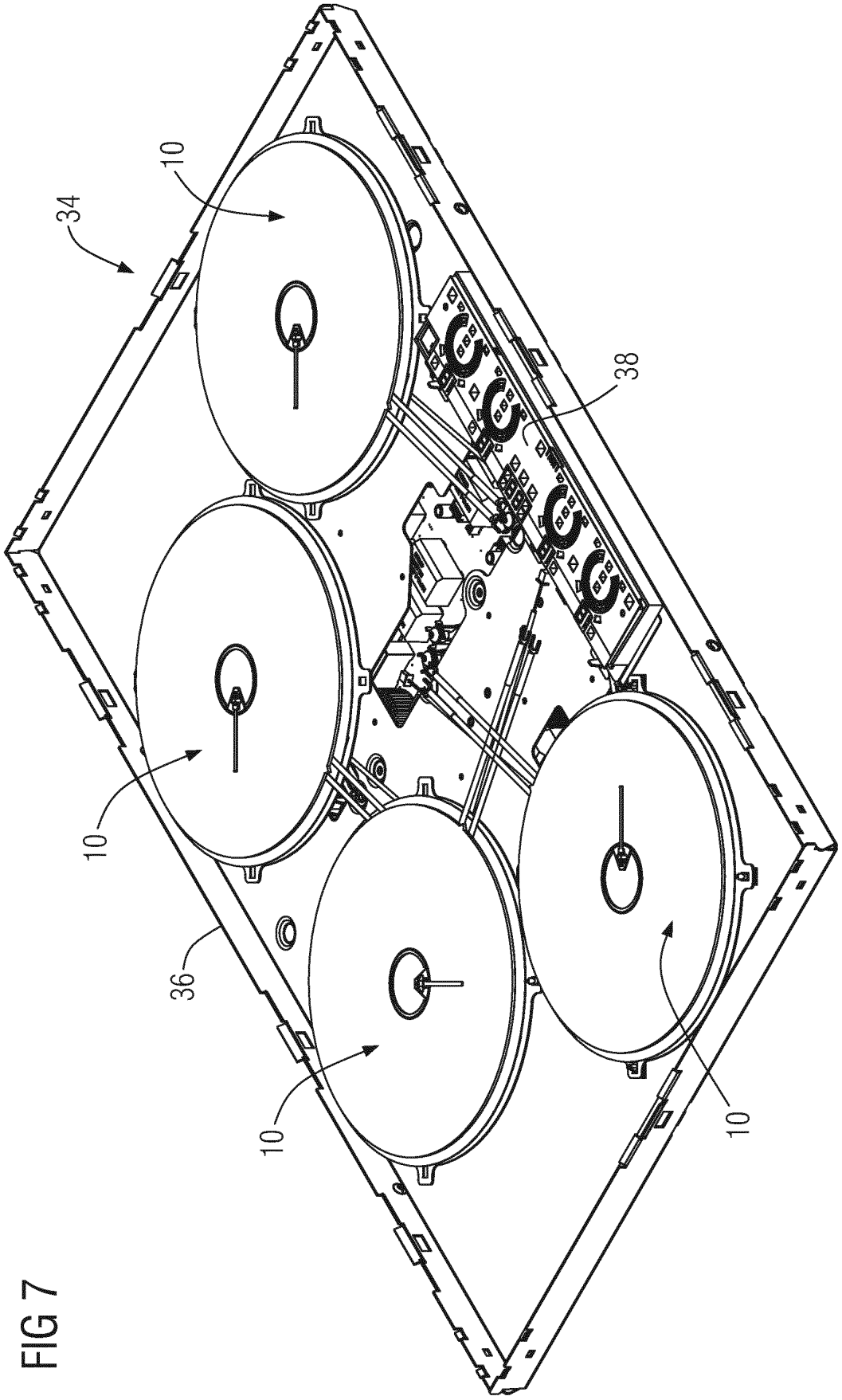

FIG 7

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2012003991 A1 **[0003]**
- EP 2161966 A1 **[0005]**
- EP 1596635 A1 **[0006]**