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(71) Applicant: **ELECTROLUX APPLIANCES AKTIEBOLAG**
105 45 Stockholm (SE)

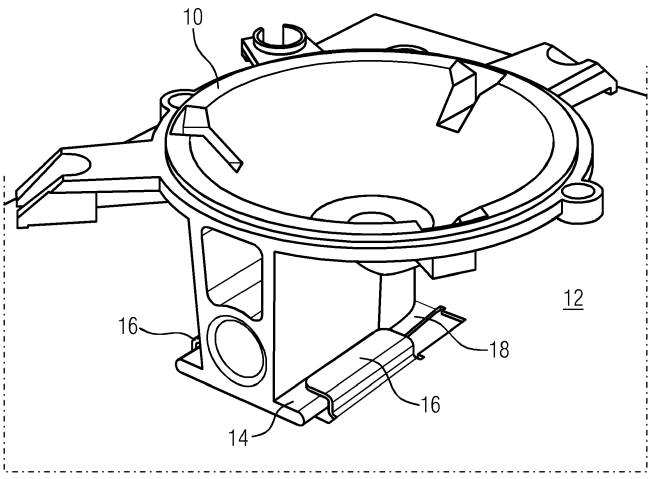
(72) Inventors:
- **EUSEPI, Riccardo**
  47122 Forli (IT)
- **VIVACQUA, Ferdinando**
  47122 Forli (IT)

(74) Representative: **Electrolux Group Patents**
AB Electrolux
Group Patents
105 45 Stockholm (SE)

(54) BURNER BODY, METAL SHEET PLATE OF DOMESTIC APPLIANCE AND FASTENING SYSTEM FOR THE BURNER BODY ON THE METAL SHEET ELEMENT

(57) The present invention relates to a burner body (10) for a domestic appliance, in particular for a gas cooking hob. The burner body (10) comprises two lateral wings arranged in a lower portion of said burner body (10). Said lateral wings are arranged at opposite sides of the lower portion of the burner body (10). The lateral wings are arranged parallel to each other. The burner body (10) is fixable on the domestic appliance by a horizontal movement, so that the lateral wings are engageable with complementary elements (16) of the domestic appliance. Further, the present invention relates to a metal sheet plate (12) of a domestic appliance, in particular a gas cooking hob. The metal sheet plate (12) comprises at least one punched hole. Two slide rails (16) are formed at opposite sides of the punched hole. The slide rails (16) are formed as L-shaped profile parts. The slide rails (16) are provided for receiving at least one complementary element of a burner body (10). Moreover, the present invention relates to a fastening system for the burner body (10) on the metal sheet plate (12) of the domestic appliance.

FIG 1



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Description

[0001] The present invention relates to a burner body for a domestic appliance, in particular for a gas cooking hob. Further, the present invention relates to a metal sheet plate of a domestic appliance, in particular a gas cooking hob. Moreover, the present invention relates to a fastening system for a burner body on the metal sheet plate of a domestic appliance, in particular of a gas cooking hob.

[0002] A conventional burner body is fastened on a gas cooking hob by suitable fastening elements. For example, the burner body is fastened on the gas cooking hob by screws, bolts or nuts. These fastening methods require tools and are time-consuming. Further, these fastening methods may damage the burner body and the domestic appliance.

[0003] It is an object of the present invention to provide a burner body, a domestic appliance and a fastening system, which allow a reliable fastening of the burner body on the domestic appliance by low complexity.

[0004] The object of the present invention is achieved by the burner body according to claim 1.

[0005] According to the present invention a burner body for a domestic appliance, in particular for a gas cooking hob, is provided, wherein:

- the burner body comprises two lateral wings arranged in a lower portion of said burner body,
- said lateral wings are arranged at opposite sides of the lower portion of the burner body,
- the lateral wings are arranged parallel to each other, and
- the burner body is fixable on the domestic appliance by a horizontal movement, so that
- the lateral wings are engageable with complementary elements of the domestic appliance.

[0006] The core of the present invention is that the burner body is fixable on the domestic appliance, in particular on the gas cooking hob, by a horizontal movement of said burner body. The lateral wings are engageable with complementary elements of the domestic appliance by a simple movement. Any tools or fastening elements are not required.

[0007] For example, the burner body comprises a base plate arranged in the lower portion of said burner body, wherein the lateral wings are arranged at opposite sides of said base plate.

[0008] Preferably, the base plate is rectangular.

[0009] Additionally, the burner body may comprise at least one pin element engageable with a complementary receiving hole, an end portion of an elongated cut-out or a shaped hole of a slot.

[0010] The object of the present invention is further achieved by the metal sheet plate according to claim 5.

[0011] According to the present invention a metal sheet plate for a domestic appliance, in particular for a gas cooking hob, is provided, wherein:

- the metal sheet plate comprises at least one punched hole,
- two slide rails are formed at opposite sides of the punched hole,
- the slide rails are formed as L-shaped profile parts, and
- the slide rails are provided for receiving at least one complementary element of a burner body.

[0012] The core of the present invention are the slide rails formed at the metal sheet, which are provided for receiving complementary elements of a burner body. The slide rails are engageable with complementary elements of the burner body. Additional fastening elements or tools are not required.

[0013] Preferably, the slide rails extend upwards from the plane of the metal sheet plate.

[0014] For example, the punched hole is subdivided into two punched holes separated by a connecting plate, wherein the two slide rails are formed at outermost opposite sides of the subdivided punched hole.

[0015] In particular, the metal sheet plate comprises at least one tab element formed as an appendix of the metal sheet plate and extending inwardly within the punched hole.

[0016] The arrangement of the slide rails and the tab element may form a poka-yoke structure. Thus, the burner body cannot be arranged faultily.

[0017] Advantageously, the tab element may be inclined downwards.

[0018] Further, the tab element may include at least one receiving hole for receiving a protruding element of the burner body.

[0019] Additionally, the tab element may include at least one support element formed as an appendix of the metal sheet plate and arranged opposite to the tab element.

[0020] Alternatively, the metal sheet plate may comprise at least one elongated cut-out or slot for receiving and guiding the protruding element of the burner body during a movement of said burner body, wherein a longitudinal axis of said elongated cut-out or slot, respectively, extends parallel to the slide rails.

[0021] Moreover, the metal sheet plate may comprise at least one tongue element formed within a further punched hole and extending parallel to the slide rails, wherein the tongue element forms a snap-in mechanism with the burner body.

[0022] Preferably, the tongue element and the elongated cut-out are arranged side by side.

[0023] Further, the slot may include a widened hole at its one end portion and a shaped hole at its other end portion, wherein the widened hole is provided for inserting the protruding element of the burner body, while the shaped hole is provided for engaging with said protruding element of the burner body.

[0024] Moreover, the present invention relates to a fastening system for a burner body on a metal sheet plate of a domestic appliance, in particular of a gas cooking hob, wherein the fastening system is provided for the burner body and the metal sheet plate mentioned above.

[0025] Preferably, the pin element of the burner body on the one hand and the tab element with the receiving hole of the metal sheet plate on the other hand form a snap-in mechanism.

[0026] Novel and inventive features of the present invention are set forth in the appended claims.

[0027] The present invention will be described in further detail with reference to the drawings, in which

FIG 1 illustrates a schematic perspective view of a burner body attached at a metal sheet plate according to a first embodiment of the present invention,

FIG 2 illustrates a schematic perspective partial bottom view of the metal sheet plate with the burner body according to the first embodiment of the present invention,

FIG 3 illustrates a further schematic perspective view of the burner body attached at the metal sheet plate according to the first embodiment of the present invention,

FIG 4 illustrates a schematic sectional side view of the burner body attached at the metal sheet plate according to the first embodiment of the present invention,

FIG 5 illustrates a further schematic perspective view of the burner body attached at the metal sheet plate according to the first embodiment of the present invention,

FIG 6 illustrates a further schematic perspective view of the burner body attached at the metal sheet plate according to the first embodiment of the present invention, and

FIG 7 illustrates a schematic perspective partial view of the metal sheet plate with a fastening system for the burner body according to the first embodiment of the present invention,

FIG 8 illustrates a schematic perspective partial view of the metal sheet plate with the fastening system for the burner body according to a second embodiment of the present invention,

FIG 9 illustrates a schematic perspective view of the burner body attached at the metal sheet plate according to the second embodiment of the present invention,

FIG 10 illustrates a further schematic perspective partial view of the metal sheet plate with the fastening system for the burner body according to the second embodiment of the present invention,

FIG 11 illustrates a further schematic perspective view of the burner body attached at the metal sheet plate according to the second embodiment of the present invention,

FIG 12 illustrates a schematic partial bottom view of the metal sheet plate with the burner body according to the second embodiment of the present invention,

FIG 13 illustrates a schematic perspective partial view of the metal sheet plate with the fastening system for the burner body according to the third embodiment of the present invention,

FIG 14 illustrates a schematic perspective partial view of the burner body being attached at the metal sheet plate according to the third embodiment of the present invention,

FIG 15 illustrates a schematic perspective view of the burner body attached at the metal sheet plate according to the third embodiment of the present invention,

FIG 16 illustrates a schematic perspective partial view of the metal sheet plate with the fastening system for the burner body according to the third embodiment of the present invention,

FIG 17 illustrates a schematic bottom view of the metal sheet plate with the burner body according to the third embodiment of the present invention,

FIG 18 illustrates a further schematic bottom view of the metal sheet plate with the burner body according to the third embodiment of the present invention, and

FIG 19 illustrates a schematic sectional side view of the metal sheet plate with the burner body according to the third embodiment of the present invention.

[0028] FIG 1 illustrates a schematic perspective view of a burner body 10 attached at a metal sheet plate 12 according to a first embodiment of the present invention. In particular, the metal sheet plate 12 is a part of a gas cooking hob. Preferably, the metal sheet plate 12 extends horizontally. For example, the metal sheet plate 12 is made of steel, stainless steel or aluminium, preferably

steel.

[0029] The burner body 10 comprises a base plate 14 at its bottom side. Said base plate 14 includes two lateral wings extending parallel to each other. The metal sheet plate 12 includes two parallel slide rails 16. Said slide rails 16 are formed complementary to the lateral wings of the base plate 14, so that the base plate 14 is slide-in and inserted between the slide rails 16. Thus, the burner body 10 is attachable at the metal sheet plate 12 by a sideward movement of said burner body 10, wherein the base plate 14 is inserted between the slide rails 16.

[0030] In this example, the slide rails 16 are formed by punching a hole in the metal sheet plate 12 and bending two opposite borders of said hole. The slide rails 16 are formed as L-shaped profile parts.

[0031] FIG 2 illustrates a schematic perspective partial bottom view of the metal sheet plate 12 with the burner body 10 according to the first embodiment of the present invention. The base plate 14 of the burner body 10 is inserted between the slide rails 16.

[0032] Further, the metal sheet plate 12 includes a tap element 18 formed within the punched hole of said metal sheet plate 12. The tap element 18 extends inwardly within the hole. The tap element 18 is an appendix of the metal sheet plate 12. Moreover, the tap element 18 is inclined downwards. Further, the tap element 18 is elastic. Preferably, the tab element (18) is formed as an integral part of the metal sheet plate (12). For example, the tab element (18) may be obtained by cold stamping of the metal sheet plate (18). Thereby it is to be understood that the thickness of said tab element (18) may be same or different to the thickness of the metal sheet plate (12). Preferably, the thickness of the tab element (18) and the metal sheet plate (12) are similar. Particularly, in case that the tab element (18) may be obtained by cold stamping of the metal sheet plate (18) the thickness of both may be approximately uniform. A person skilled in the art, however, will immediately acknowledge that also in such case the thickness of the tab element (18) and the thickness of the metal sheet plate (18) may slightly vary due to the stamping process that may particularly entail little stretching effects.

[0033] A pin element 20 is formed at the bottom side of the burner body 10. A receiving hole 22 is formed in the tap element 18. The pin element 20 of the burner body 10 penetrates the receiving hole 22 in the tap element 18, when said burner body 10 is attached at the metal sheet plate 12. Since the tap element 18 is inclined downwards, the pin element 20 of the burner body 10 and the hole in the tap element 18 form a snap-in mechanism.

[0034] FIG 3 illustrates a further schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the first embodiment of the present invention.

[0035] The burner body 10 comprises the base plate 14 including the two lateral wings. The metal sheet plate 12 includes the two parallel slide rails 16 formed complementary to the lateral wings of the base plate 14. The base plate 14 is slide-in and inserted between the slide rails 16. The pin element 20 of the burner body 10 penetrates the receiving hole 22 in the tap element 18.

[0036] FIG 4 illustrates a schematic sectional side view of the burner body 10 attached at the metal sheet plate 12 according to the first embodiment of the present invention.

[0037] The base plate 14 of the burner body 10 is aligned on the top side of the metal sheet plate 12. FIG 4 clarifies that the tap element 18 is inclined. The pin element 20 of the burner body 10 penetrates the receiving hole 22 in the tap element 18. When the burner body 10 is fastened at the metal sheet plate 12, then said burner body 10 has to be moved from the right hand side to the left hand side in FIG 4, wherein the pin element 20 and the tap element 18 with the receiving hole 22 form the snap-in mechanism.

[0038] FIG 5 illustrates a further schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the first embodiment of the present invention.

[0039] The lateral wings of the base plate 14 are engaged with the slide rails 16 of the metal sheet plate 12. In FIG 5, the base plate 14 has been moved rearwards into the slide rails 16.

[0040] FIG 6 illustrates a further schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the first embodiment of the present invention.

[0041] The lateral wings of the base plate 14 are engaged with the slide rails 16 of the metal sheet plate 12. In FIG 6, the base plate 14 has been moved into the slide rails 16 from the left in the back to the right in the front.

[0042] FIG 7 illustrates a schematic perspective partial view of the metal sheet plate 12 with a fastening system for the burner body 10 according to the first embodiment of the present invention.

[0043] The metal sheet plate 12 includes the punched hole. In this example, said punched hole is substantially rectangular. The slide rails 16 are arranged at opposite sides of the punched hole. The slide rails 16 are bent from tap elements punched in the metal sheet 12. The slide rails 16 are formed as L-shaped profile parts. The space between the slide rails 16 is marginally bigger than the base plate 14 of the burner body 10. The space between the slide rails 16 is complementary to the base plate 14 of the burner body 10. The lateral wings of the base plate 14 are engageable with the slide rails 16.

[0044] The tap element 18 is formed within the punched hole of the metal sheet plate 12. The tap element 18 extends inwardly within the punched hole. The tap element 18 is an appendix of the metal sheet plate 12. In particular, the tap element 18 is inclined downwards.

[0045] The tap element 18 includes the receiving hole 22. In FIG 7, the receiving hole 22 in the tap element 18 is an open hole. In contrast, the receiving hole 22 of the

tap element 18 in FIG 2 is a closed through hole.

[0046] Optionally, a support element 24 is formed in the punched hole of the metal sheet plate 12. Said support element 24 is formed as an appendix of the metal sheet plate 12 and arranged opposite to the tap element 18. The support element 24 extends within the same plane as the metal sheet plate 12. The support element 24 is provided for supporting the base plate 14 of the burner body 10.

[0047] The burner body 10 with the base plate 14 and the lateral wings on the one hand and the slide rails 16 at the metal sheet plate 12 on the other hand provide a fastening system for the burner body 10 on the metal sheet plate 12. The burner body 10 is fixable on the metal sheet plate 12 without any additional fastening element. The burner body 10 is fixable on the metal sheet plate 12 by a horizontal movement of said burner body 10. The snap-in mechanism formed by the pin element 20 on the one hand and the inclined tap element 18 with the receiving hole 22 on the other hand allows a reliable connection between the burner body 10 and the metal sheet plate 12.

[0048] FIG 8 illustrates a schematic perspective partial view of the metal sheet plate 12 with the fastening system for the burner body 10 according to a second embodiment of the present invention.

[0049] The metal sheet plate 12 of the second embodiment includes two punched holes arranged side by side. A connecting plate 26 is formed between said punched holes. In this example, said punched holes are substantially rectangular. In each punched hole, one slide rail 16 is bent from a tap element punched in the metal sheet 12. Said slide rails 16 are arranged at the outermost sides of the both punched holes. The slide rails 16 are arranged parallel to each other. Each slide rail 16 is formed as L-shaped profile part. The space between the slide rails 16 is marginally bigger than the base plate 14 of the burner body 10. The space between the slide rails 16 is complementary to the base plate 14 of the burner body 10. The lateral wings of the base plate 14 are engageable with the slide rails 16. The base plate 14 of the burner body 10 is slide-in and inserted between the slide rails 16. The burner body 10 is attachable at the metal sheet plate 12 by the sideward movement of said burner body 10, wherein the base plate 14 is inserted between the slide rails 16.

[0050] Moreover, the metal sheet plate 12 includes a tongue element 28 formed within a further punched hole. Said tongue element 28 extends parallel to the slide rails 16. Further, the tongue element 28 and the pair of slide rails 16 are arranged in series. The open end of the tongue element 28 is directed to the pair of slide rails 16. The tongue element 28 is inclined upwards, so that the height of said tongue element 28 decreases with the distance from the pair of slide rails 16.

[0051] Further, the metal sheet plate 12 includes an elongated cut-out 30 arranged directly beside the tongue element 28. Said elongated cut-out 30 extends parallel to the tongue element 28. The elongated cut-out 30 includes a first end portion 32 and a second end portion 34. The first end portion 32 is more distant from the pair of slide rails 16, while the second end portion 34 is closer to said pair of slide rails 16. The elongated cut-out 30 is provided for receiving and guiding the pin element 20 of the burner body 10. Said elongated cut-out 30 forms a duct for the pin element 20 of the burner body 10.

[0052] The burner body 10 is fixable by the horizontal movement on the metal sheet plate 12. In FIG 8, the burner body 10 is fixable by a horizontal movement from right to left. During said horizontal movement, the base plate 14 of the burner body 10 is slide-in and inserted between the slide rails 16, while the pin element 20 of the burner body 10 is slide within the elongated cut-out 30. When the burner body 10 has overcome the tongue element 28, then said tongue element 28 prevents that the burner body 10 can be moved back. Thus, the tongue element 28 and the burner body 10 form a snap-in mechanism.

[0053] Moreover, the metal sheet plate 12 includes a screw hole 36, so that the burner body 10 is additionally fixable by a screw or the like.

[0054] FIG 9 illustrates a schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the second embodiment of the present invention. FIG 9 shows a position before the burner body 10 is horizontally moved on the metal sheet plate 12 for fastening said burner body 10. In FIG 9, the burner body 10 is fixable by a horizontal movement from left to right.

[0055] The base plate 14 of the burner body 10 is not yet completely received by the slide rails 16. The pin element 20 of the burner body 10 is received by the first end portion 32 of the elongated cut-out 30. The tongue element 28 does not interact with the burner body 10. However, a person skilled in the art will immediately acknowledged that the tongue element 28 will be received in the shaped area on the bottom of the burner body, when the burner body is in fixed final position. The tongue element 28 will act as blocking element to avoid backwarding of the burner body. This is because the tongue element will remain placed in order to impede back step of the burner body (see also the tongue element 28 position in fig 11).

[0056] FIG 10 illustrates a further schematic perspective partial view of the metal sheet plate 12 with the fastening system for the burner body 10 according to the second embodiment of the present invention.

[0057] The metal sheet plate 12 of the second embodiment includes the both punched holes arranged side by side and the connecting plate 26 formed between said punched holes. In each punched hole one slide rail 16 is bent from the tap element punched in the metal sheet 12. The slide rails 16 are arranged at the outermost sides of the both punched holes and arranged parallel to each other. Each slide rail 16 is formed as L-shaped profile part. The space between said slide rails 16 is marginally bigger than the base plate 14 of the burner body 10. The

space between the slide rails 16 is at least partially complementary to the base plate 14 of the burner body 10. The lateral wings of the base plate 14 are engageable with the slide rails 16. The base plate 14 of the burner body 10 can be slide-in and inserted between the slide rails 16. The burner body 10 is attachable at the metal sheet plate 12 by the sideward movement of said burner body 10, wherein the base plate 14 is inserted between the slide rails 16.

[0058] The tongue element 28 is formed within the further punched hole and extends parallel to the slide rails 16. Moreover, the tongue element 28 and the pair of slide rails 16 are arranged in series, wherein the open end of the tongue element 28 is directed to the pair of slide rails 16. The tongue element 28 is inclined upwards, wherein the height of said tongue element 28 decreases with the distance from the pair of slide rails 16.

[0059] The elongated cut-out 30 is arranged directly beside the tongue element 28 and extends parallel to said tongue element 28. The elongated cut-out 30 includes the first end portion 32 and the second end portion 34, wherein the first end portion 32 is more distant from the pair of slide rails 16, while the second end portion 34 is closer to said pair of slide rails 16. The elongated cut-out 30 forms a duct for the pin element 20 of the burner body 10. The screw hole 36 allows that the burner body 10 is additionally fixable by a screw or the like.

[0060] FIG 11 illustrates a further schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the second embodiment of the present invention. In FIG 11 the burner body 10 is fastened on the metal sheet plate 12.

[0061] The base plate 14 of the burner body 10 is engaged with the guide rails 16 of the metal sheet plate 12. The pin element 20 of the burner body 10 is received by the second end portion 34 of the elongated cut-out 30. The tongue element 28 supports the burner body 10 in the fastened state. The tongue element 28 prevents that the burner body 10 can be moved back from the fastened state. The tongue element 28 and the burner body 10 form a snap-in mechanism.

[0062] FIG 12 illustrates a schematic partial bottom view of the metal sheet plate 12 with the burner body 10 according to the second embodiment of the present invention. In FIG 12 the burner body 10 is in the fastened state on the metal sheet plate 12.

[0063] The base plate 14 of the burner body 10 engages with the guide rails 16 of the metal sheet plate 12. The pin element 20 of the burner body 10 is received by the second end portion 34 of the elongated cut-out 30. The tongue element 28 is aligned with the burner body 10. The tongue element 28 prevents that the burner body 10 can be moved back from the fastened state. The burner body 10 is additionally fixed by a screw 38 through the screw hole 36 of the metal sheet plate 12.

[0064] FIG 13 illustrates a schematic perspective partial view of the metal sheet plate 12 with the fastening system for the burner body 10 according to a third embodiment of the present invention.

[0065] The metal sheet plate 12 of the third embodiment includes also the both punched holes arranged side by side, wherein the connecting plate 26 is formed between said punched holes. In this example, said punched holes are substantially rectangular. In each punched hole, one slide rail 16 is bent from a tap element punched in the metal sheet 12 and arranged at the outermost sides of the both punched holes. The slide rails 16 are arranged parallel to each other. Each slide rail 16 is formed as L-shaped profile part. The space between the slide rails 16 is marginally bigger than the base plate 14 of the burner body 10. The space between the slide rails 16 is complementary to the base plate 14 of the burner body 10. The lateral wings of the base plate 14 are engageable with the slide rails 16. The base plate 14 of the burner body 10 is slide-in and inserted between the slide rails 16. The burner body 10 is attachable at the metal sheet plate 12 by the sideward movement of said burner body 10, wherein the base plate 14 is inserted between the slide rails 16.

[0066] Further, the metal sheet plate 12 includes a slot 40 arranged in series with the pair of guide rails 16. The longitudinal axis of said slot 40 extends parallel to the guide rails 16. The slot 40 includes a widened hole 42 at its one end portion and a shaped hole 44 at its other end portion. The widened hole 42 is more distant from the pair of slide rails 16, while the shaped hole 44 is closer to said pair of slide rails 16. The slot 40 is provided for receiving and guiding the pin element 20 of the burner body 10. Said slot 40 forms a duct for the pin element 20 of the burner body 10.

[0067] Moreover, the metal sheet plate 12 includes the screw hole 36, so that the burner body 10 is additionally fixable by the screw 38 on said metal sheet plate 12.

[0068] FIG 14 illustrates a schematic perspective partial view of the burner body 10 being attached at the metal sheet plate 12 according to the third embodiment of the present invention. FIG 14 shows the position before the burner body 10 is horizontally moved on the metal sheet plate 12 for fastening said burner body 10. In FIG 14, the burner body 10 is fixable by a horizontal movement from right to left.

[0069] The base plate 14 of the burner body 10 is not yet received by the slide rails 16. The pin element 20 of the burner body 10 is received by the widened hole 42 of the slot 40.

[0070] FIG 15 illustrates a schematic perspective view of the burner body 10 attached at the metal sheet plate 12 according to the third embodiment of the present invention. In FIG 15 the burner body 10 is fastened on the metal sheet plate 12.

[0071] The base plate 14 of the burner body 10 is engaged with the guide rails 16 of the metal sheet plate 12. The pin element 20 of the burner body 10 is received by the shaped hole 44 of the slot 40.

[0072] FIG 16 illustrates a schematic perspective partial view of the metal sheet plate 12 with the fastening

system for the burner body 10 according to the third embodiment of the present invention.

[0073] The metal sheet plate 12 of the third embodiment includes the both punched holes arranged side by side, wherein the connecting plate 26 is formed between said punched holes. In this example, said punched holes are substantially rectangular. One slide rail 16 is bent from a tap element punched in the metal sheet 12 in each punched hole. Said guide rails 16 are arranged at the outermost sides of the both punched holes. The slide rails 16 are arranged parallel to each other. Each slide rail 16 is formed as L-shaped profile part. The space between the slide rails 16 is marginally bigger than the base plate 14 of the burner body 10. The space between the slide rails 16 is complementary to the base plate 14 of the burner body 10. The lateral wings of the base plate 14 are engageable with the slide rails 16. The base plate 14 of the burner body 10 can be slide-in and inserted between the slide rails 16. The burner body 10 is attachable at the metal sheet plate 12 by the sideward movement of said burner body 10, wherein the base plate 14 is inserted between the slide rails 16.

[0074] Further, the slot 40 is arranged in series with the pair of guide rails 16. The longitudinal axis of said slot 40 extends parallel to the guide rails 16. The slot 40 includes the widened hole 42 at its one end portion and the shaped hole 44 at its other end portion. The widened hole 42 is more distant from the pair of slide rails 16, while the shaped hole 44 is closer to said pair of slide rails 16. The slot 40 is provided for receiving and guiding the pin element 20 of the burner body 10. Said slot 40 forms the duct for the pin element 20 of the burner body 10.

[0075] The widened hole 42 allows that the pin element 20 of the burner body 10 is easily receivable. The shaped hole 44 is separated from the other portion of the slot 40 by a constriction. Thus, the shaped hole 44 prevents that the burner body 10 can be moved back from the mounted state.

[0076] The screw hole 36 allows that the burner body 10 is additionally fixable by the screw 38 on said metal sheet plate 12.

[0077] FIG 17 illustrates a schematic bottom view of the metal sheet plate 12 with the burner body 10 according to the third embodiment of the present invention. In FIG 17 the burner body 10 is in the fastened state on the metal sheet plate 12.

[0078] The base plate 14 of the burner body 10 engages with the guide rails 16 of the metal sheet plate 12. The pin element 20 of the burner body 10 is received by the shaped hole 44 of the slot 40. The shaped hole 44 of the slot 40 prevents that the burner body 10 can be moved back from the fastened state.

[0079] The burner body 10 is additionally fixed by a screw 38 through the screw hole 36 of the metal sheet plate 12.

[0080] FIG 18 illustrates a further schematic bottom view of the metal sheet plate 12 with the burner body 10 according to the third embodiment of the present invention. FIG 18 is similar as FIG 17, wherein additionally a cutting line C-C is shown.

[0081] FIG 19 illustrates a schematic sectional side view of the metal sheet plate 12 with the burner body 10 according to the third embodiment of the present invention. Said sectional side view relates to the cutting line C-C in FIG 18.

[0082] The base plate 14 of the burner body 10 engages with the guide rails 16 of the metal sheet plate 12. The pin element 20 of the burner body 10 penetrates the shaped hole 44 of the slot 40. The shaped hole 44 prevents that the burner body 10 can be moved back from the fastened state.

[0083] Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the present invention is not limited to those precise embodiments, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit 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

[0084]

10	burner body
12	metal sheet plate
14	base plate
16	slide rail
18	tab element
20	pin element
22	receiving hole
24	support element
26	connecting plate
28	tongue element
30	elongated cut-out
32	first end portion of the elongated cut-out
34	second end portion of the elongated cut-out
36	screw hole
38	screw
40	slot
42	widening hole of the slot
44	shaped hole of the slot

Claims

1. A burner body (10) for a domestic appliance, in particular for a gas cooking hob, more particularly a free-standing gas cooking hob, wherein:

   - the burner body (10) comprises two lateral wings arranged in a lower portion of said burner body (10),

- said lateral wings are arranged at opposite sides of the lower portion of the burner body (10),
- the lateral wings are arranged parallel to each other, and
- the burner body (10) is fixable on the domestic appliance by a horizontal movement, so that
- the lateral wings are engageable with complementary elements (16) of the domestic appliance.

2. The burner body according to claim 1,
characterised in that
the burner body (10) comprises a base plate (14) arranged in the lower portion of said burner body (10), wherein the lateral wings are arranged at opposite sides of said base plate (14) .

3. The burner body according to claim 2,
characterised in that
the base plate (14) is rectangular.

4. The burner body according to any one of the preceding claims,
characterised in that
the burner body (10) comprises at least one pin element (20) engageable with a complementary receiving hole (22), an end portion (34) of an elongated cut-out (30) or a shaped hole (44) of a slot (40).

5. A metal sheet plate (12) for a domestic appliance, in particular for a gas cooking hob, wherein:

- the metal sheet plate (12) comprises at least one punched hole,
- two slide rails (16) are formed at opposite sides of the punched hole,
- the slide rails (16) are formed as L-shaped profile parts, and
- the slide rails (16) are provided for receiving at least one complementary element of a burner body (10).

6. The metal sheet plate according to claim 5,
characterised in that
the slide rails (16) extend upwards from the plane of the metal sheet plate (12).

7. The metal sheet plate according to claim 5 or 6,
characterised in that
the punched hole is subdivided into two punched holes separated by a connecting plate (26), wherein the two slide rails (16) are formed at outermost opposite sides of the subdivided punched hole.

8. The metal sheet plate according to any one of the claims 5 to 7,
characterised in that
the metal sheet plate (12) comprises at least one tab element (18) formed as an appendix of the metal sheet plate (12) and extending inwardly within the punched hole, wherein preferably the tab element (18) is inclined downwards.

9. The metal sheet plate according to claim 8,
characterised in that
the tab element (18) includes at least one receiving hole (22) for a protruding element (20) of the burner body (10).

10. The metal sheet plate according to claim 8 or 9,
characterised in that
the tab element (18) includes at least one support element (24) formed as an appendix of the metal sheet plate (12) and arranged opposite to the tab element (18).

11. The metal sheet plate according to any one of the claims 5 to 7,
characterised in that
the metal sheet plate (12) comprises at least one elongated cut-out (30) or slot (40) for receiving and guiding a protruding element (20) of the burner body (10) during a movement of said burner body (10), wherein a longitudinal axis of said elongated cut-out (30) or slot (40), respectively, extends parallel to the slide rails (16).

12. The metal sheet plate according to any one of the claims 5 to 7 and 11,
characterised in that
the metal sheet plate (12) comprises at least one tongue element (28) formed within a further punched hole and extending parallel to the slide rails (16), wherein the tongue element (28) forms a snap-in mechanism with the burner body (10), and wherein preferably the tongue element (28) and the elongated cut-out (30) are arranged side by side.

13. The metal sheet plate according to according to any one of the claims 10 to 12,
characterised in that
the slot (40) includes a widened hole (42) at its one end portion and a shaped hole (44) at its other end portion, wherein the widened hole (42) is provided for inserting the protruding element (20) of the burner body (10), while the shaped hole (44) is provided for engaging with said protruding element (20) of the burner body (10).

14. A fastening system for the burner body (10) on a metal sheet plate (12) of a domestic appliance, in particular of a gas cooking hob,
characterised in that
the fastening system is provided for the burner body (10) according to any one of the claims 1 to 4 and for the metal sheet plate (12) according to any one

of the claims 5 to 10.

15. The fastening system according to claim 14, **characterised in that** the pin element (20) of the burner body (10) on the one hand and the tab element (18) with the receiving hole (22) of the metal sheet plate (12) on the other hand form a snap-in mechanism.

FIG 1

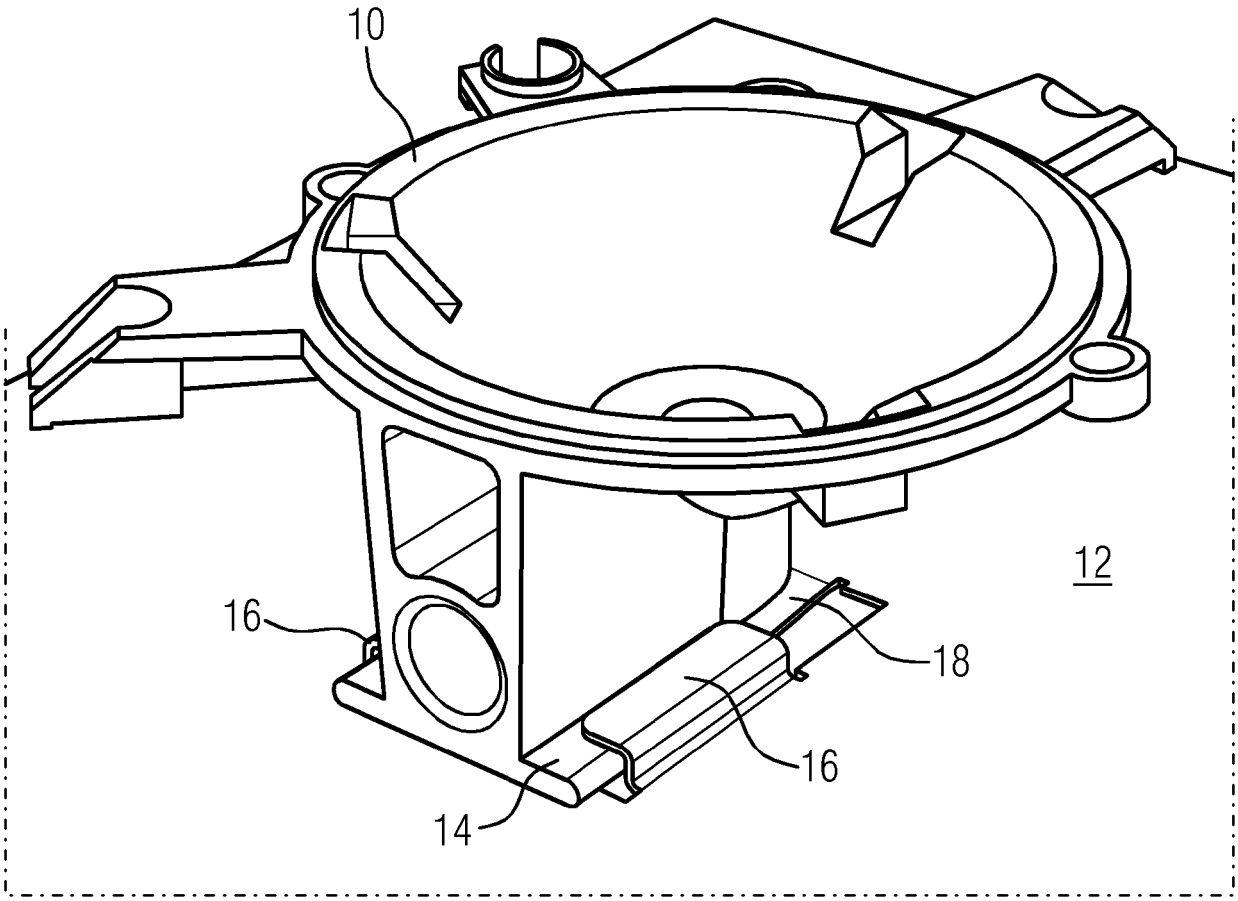


FIG 2

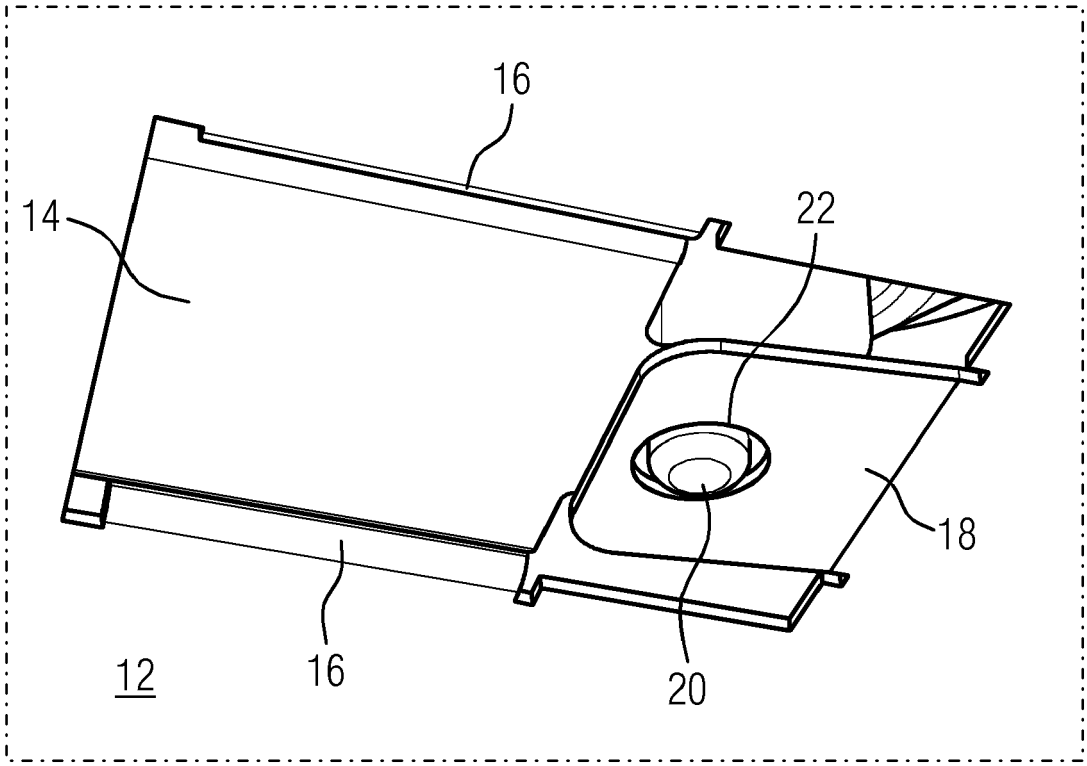


FIG 3

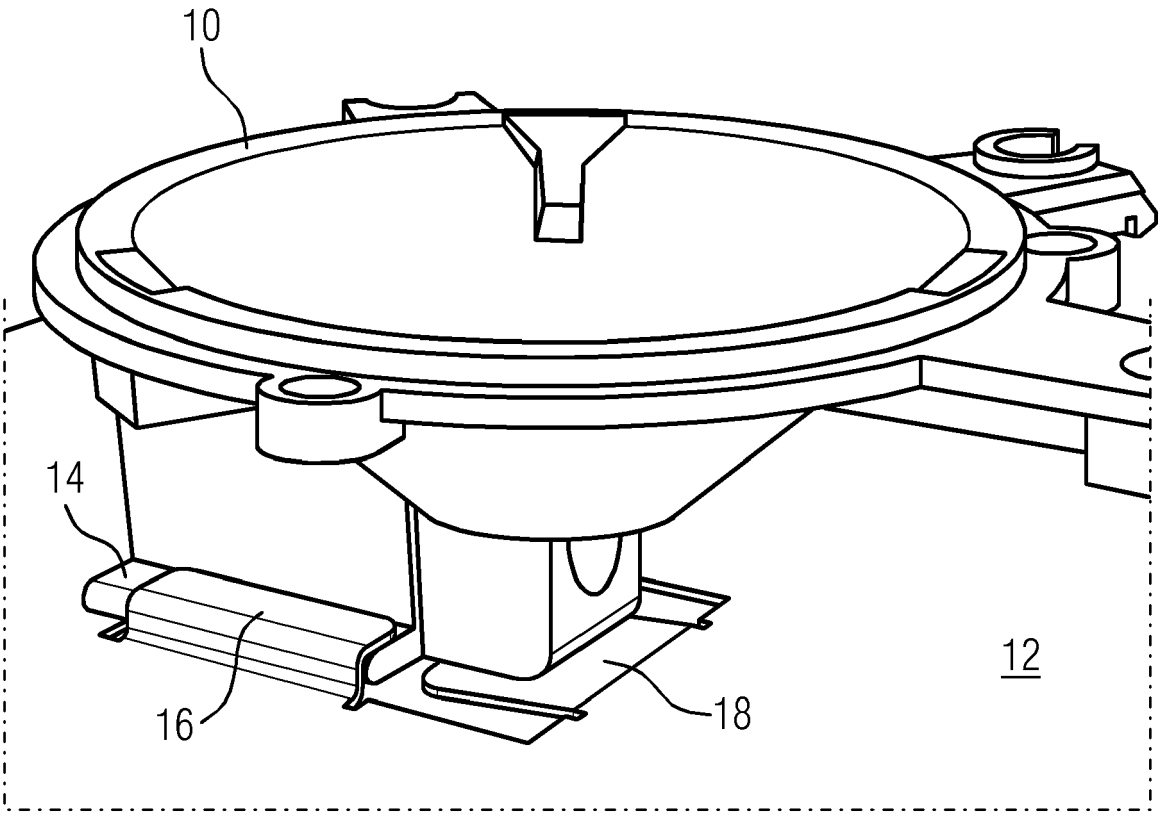


FIG 4

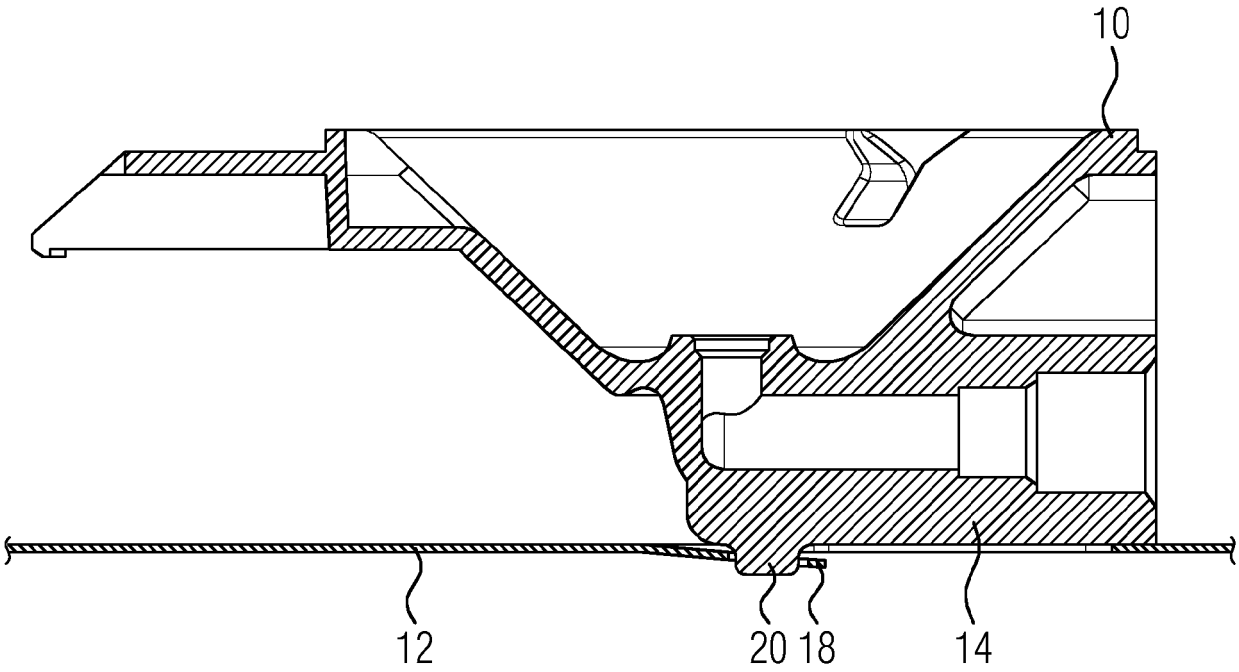


FIG 5

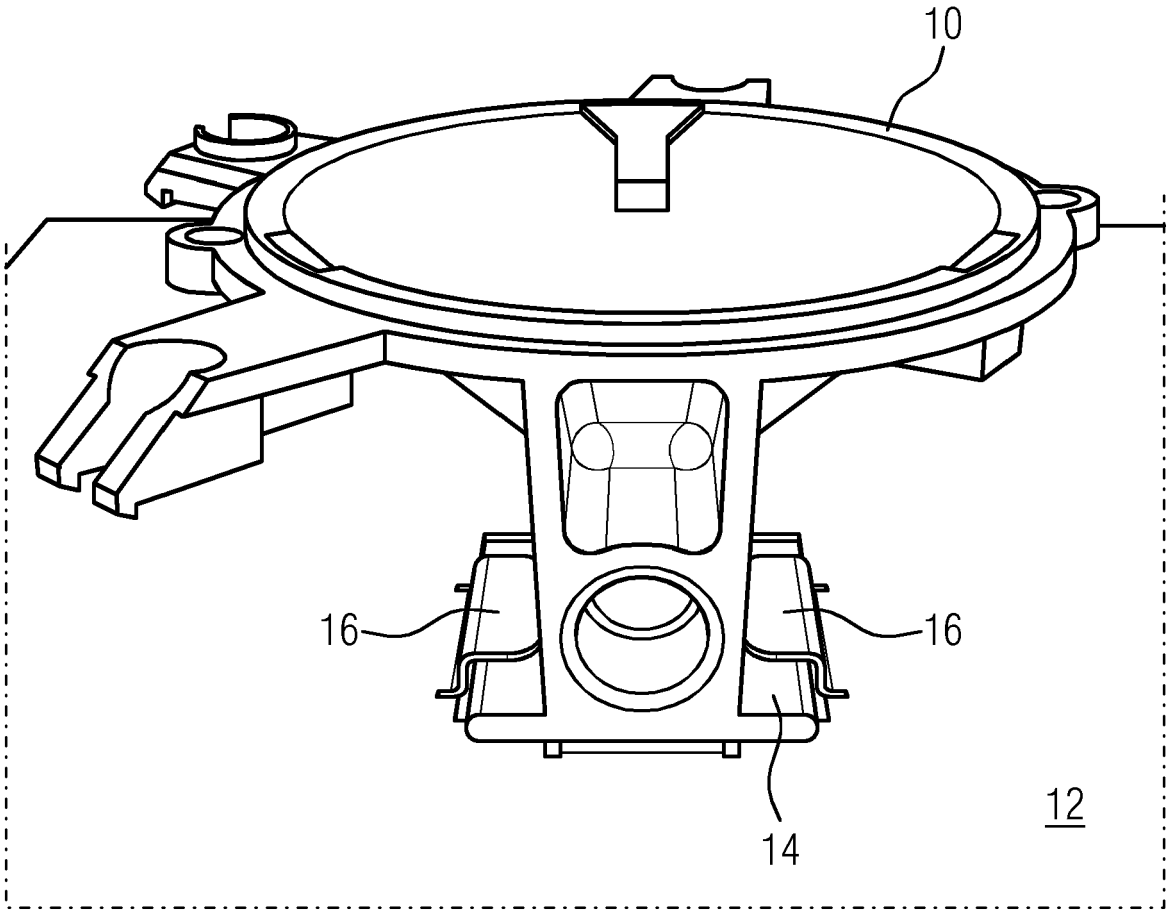


FIG 6

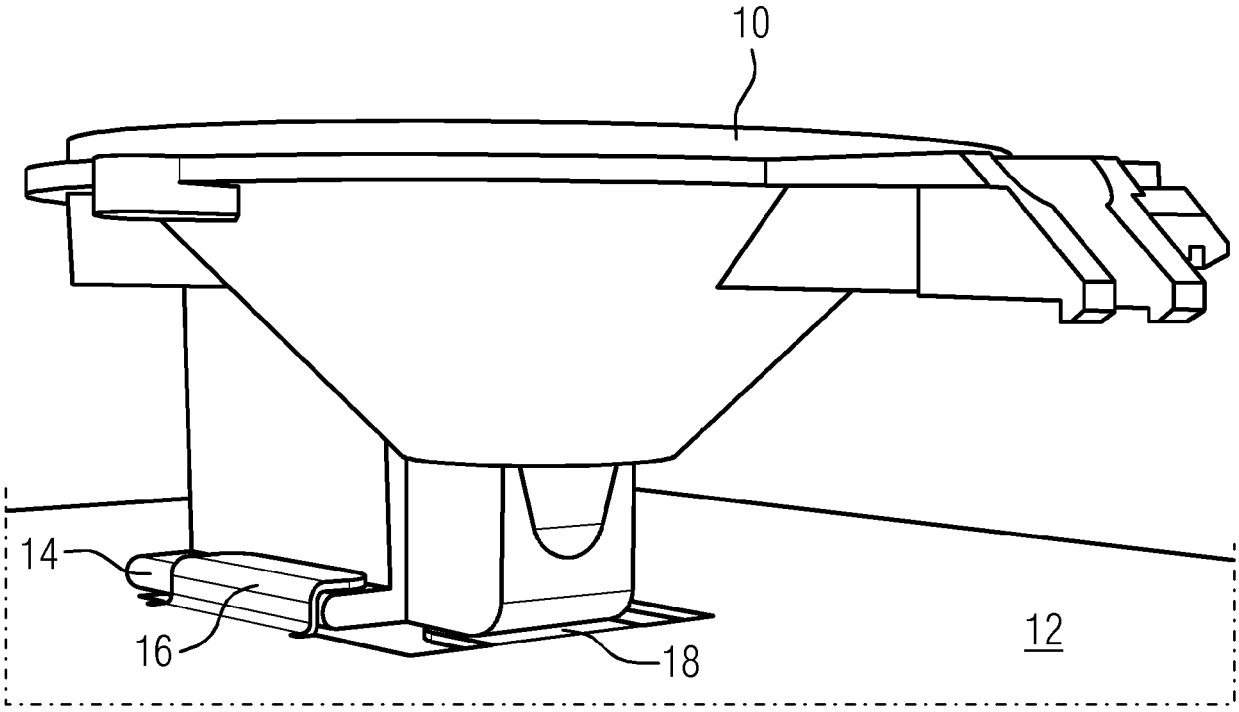


FIG 7

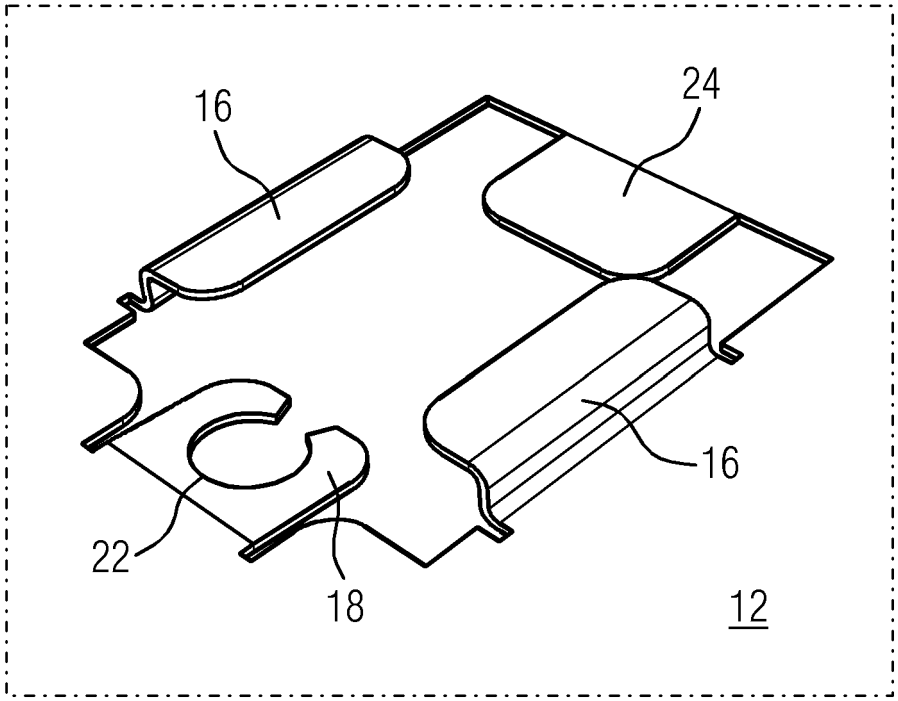


FIG 8

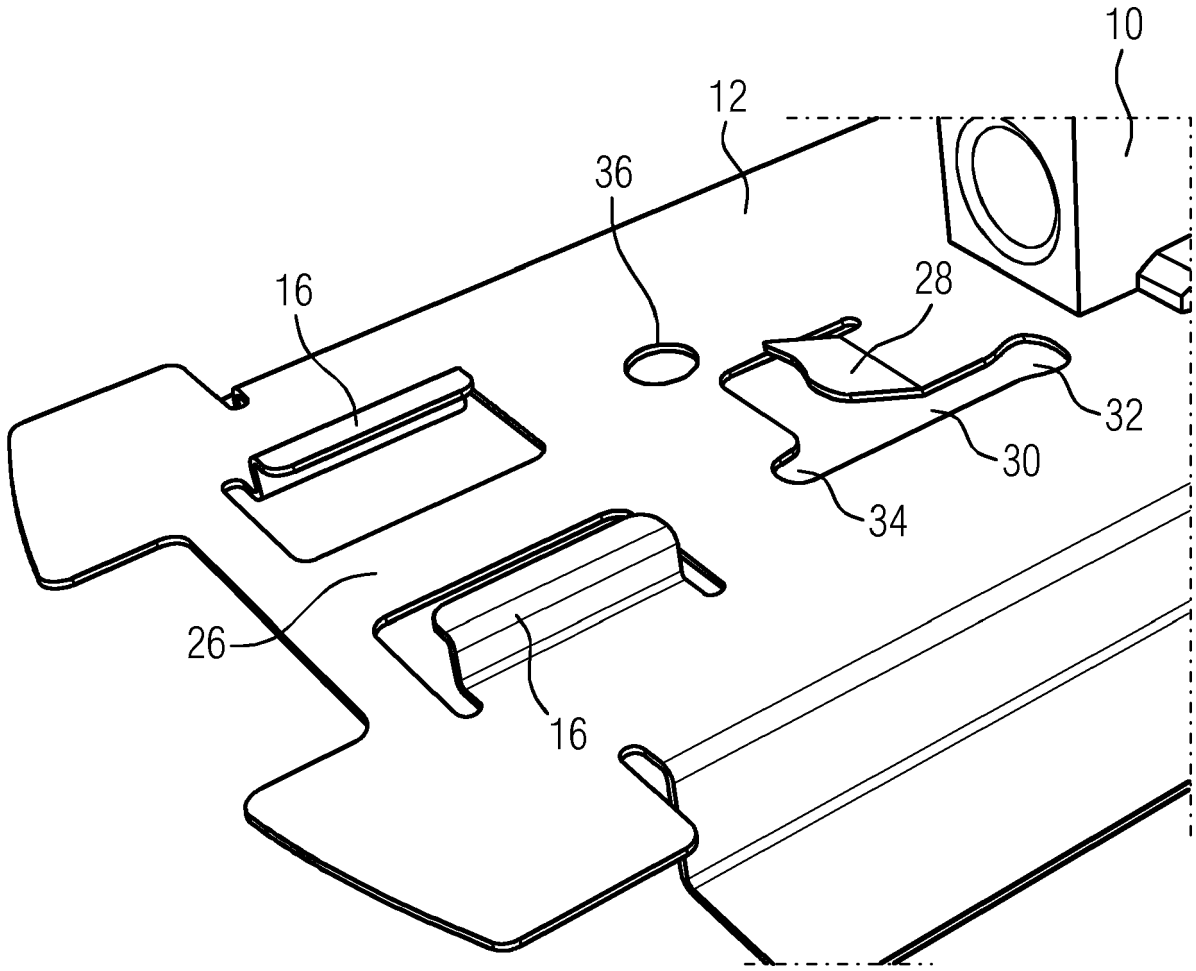


FIG 9

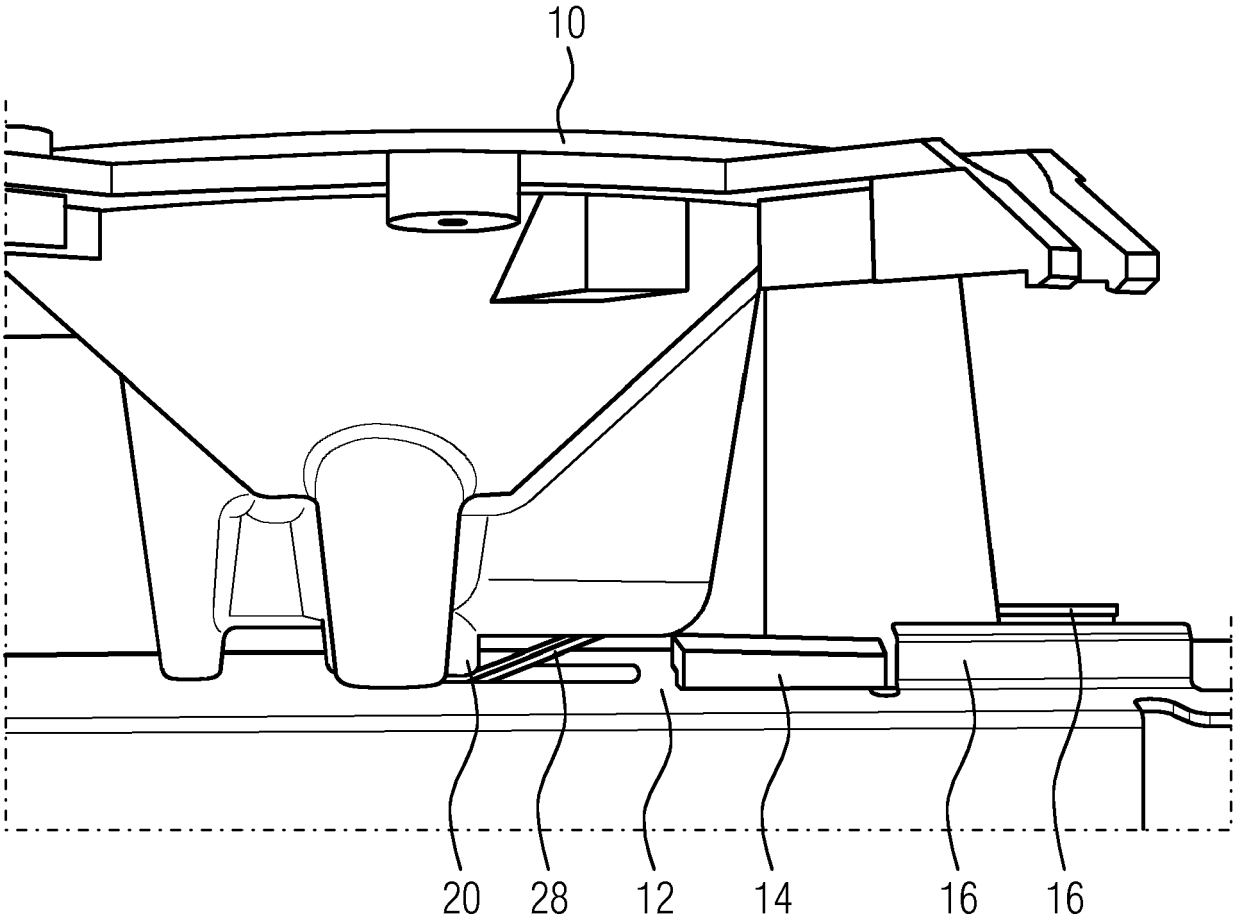


FIG 10

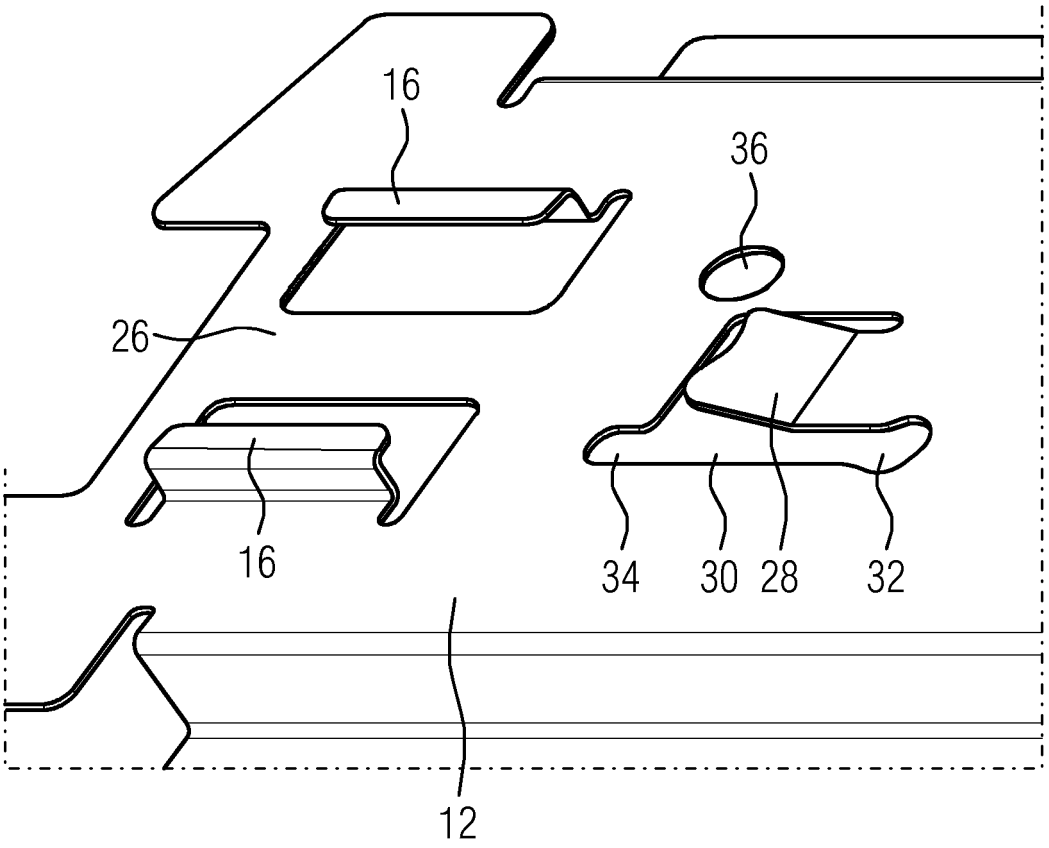


FIG 11

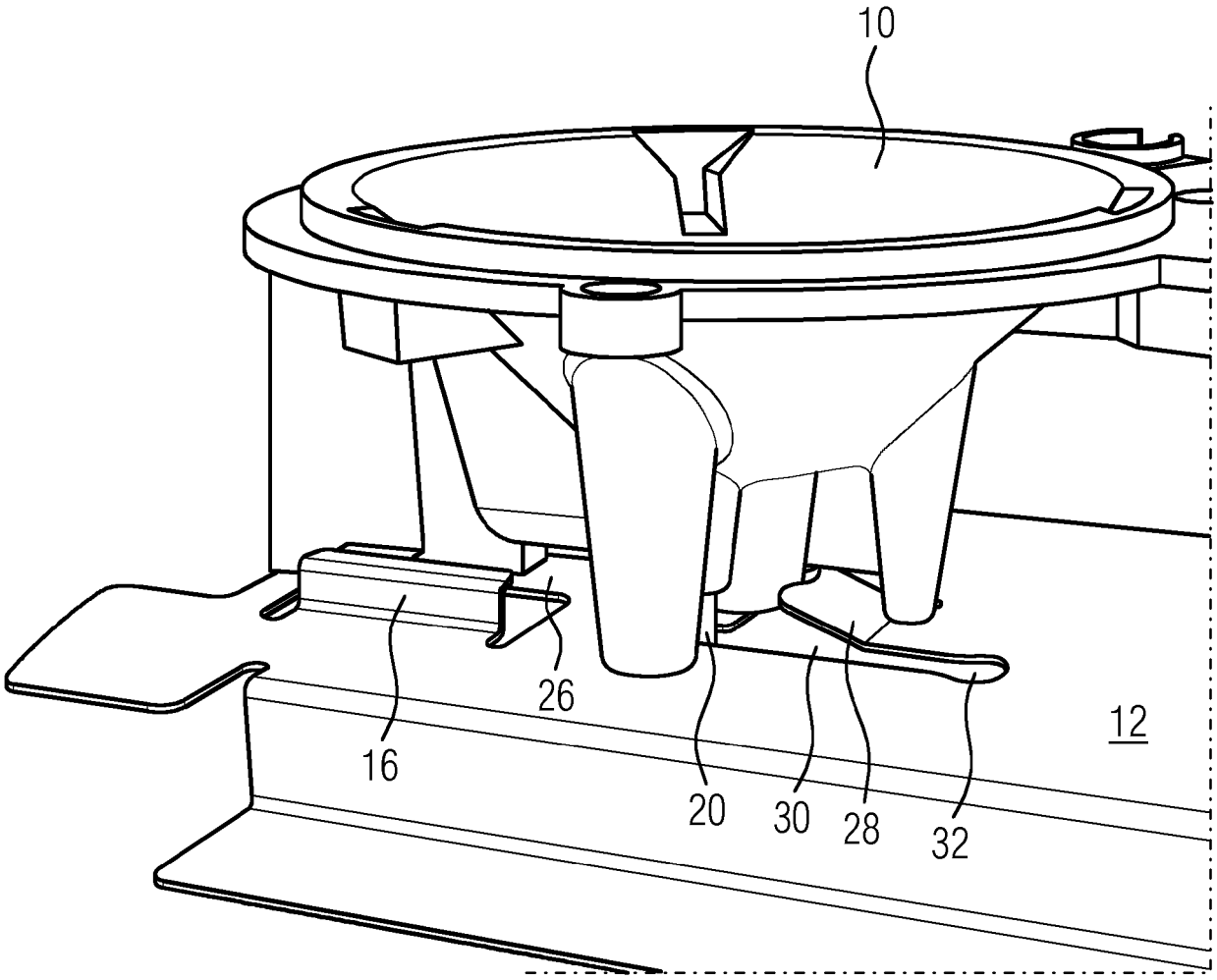


FIG 12

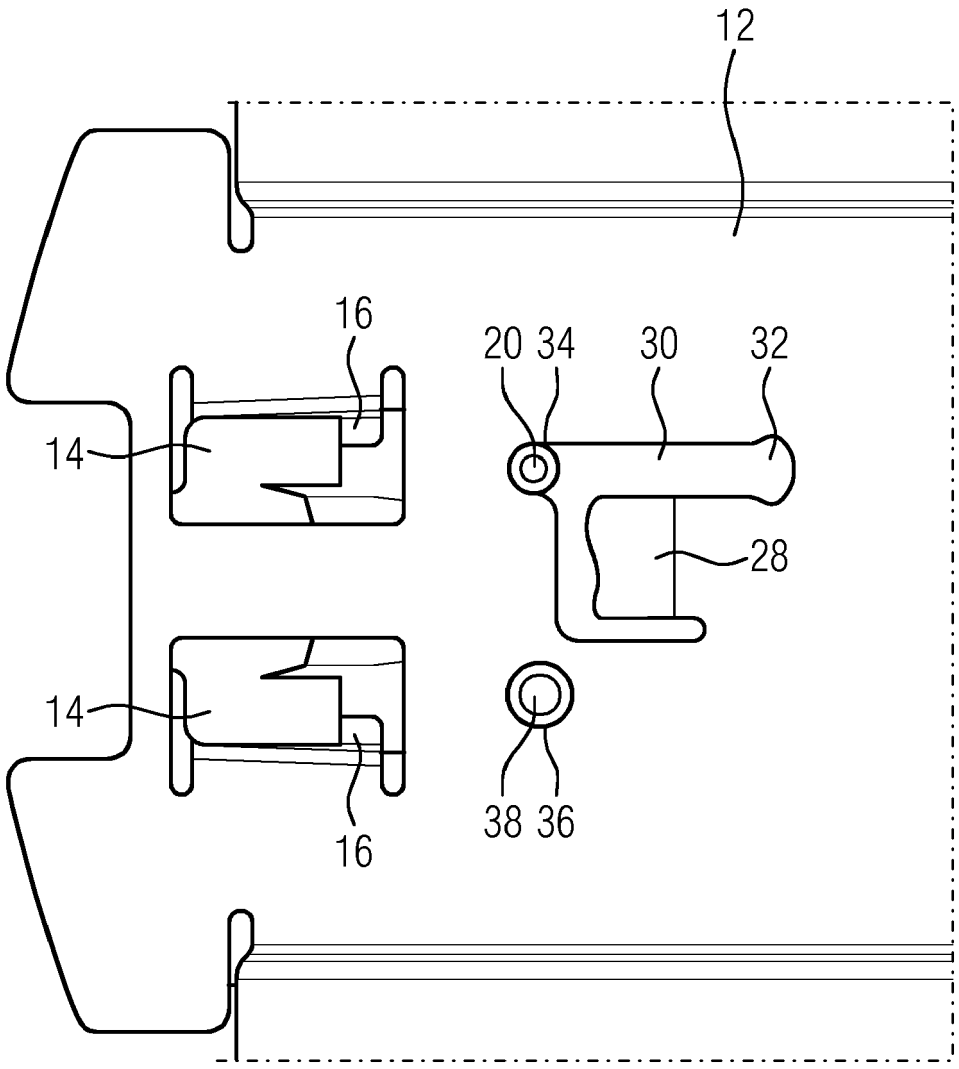


FIG 13

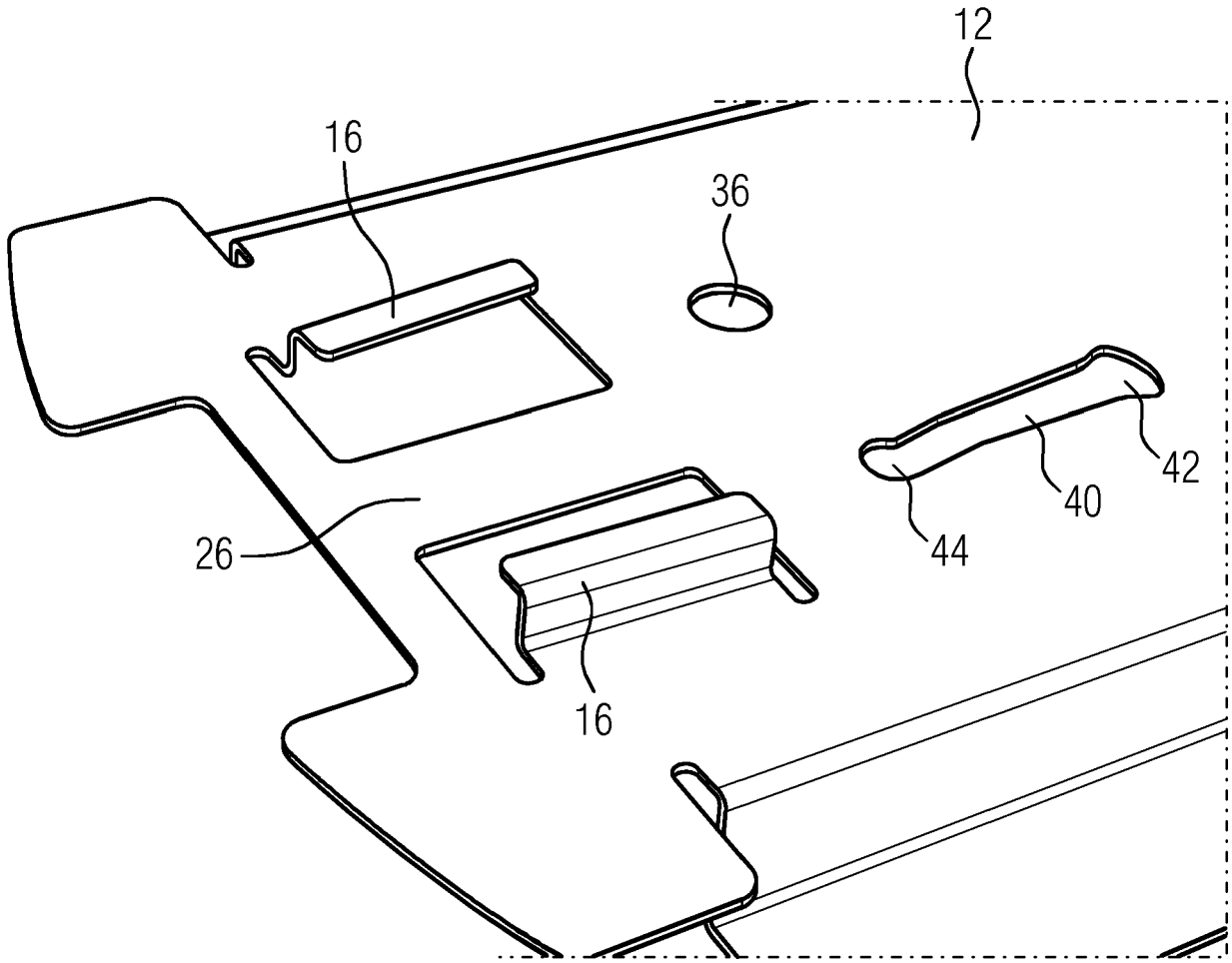


FIG 14

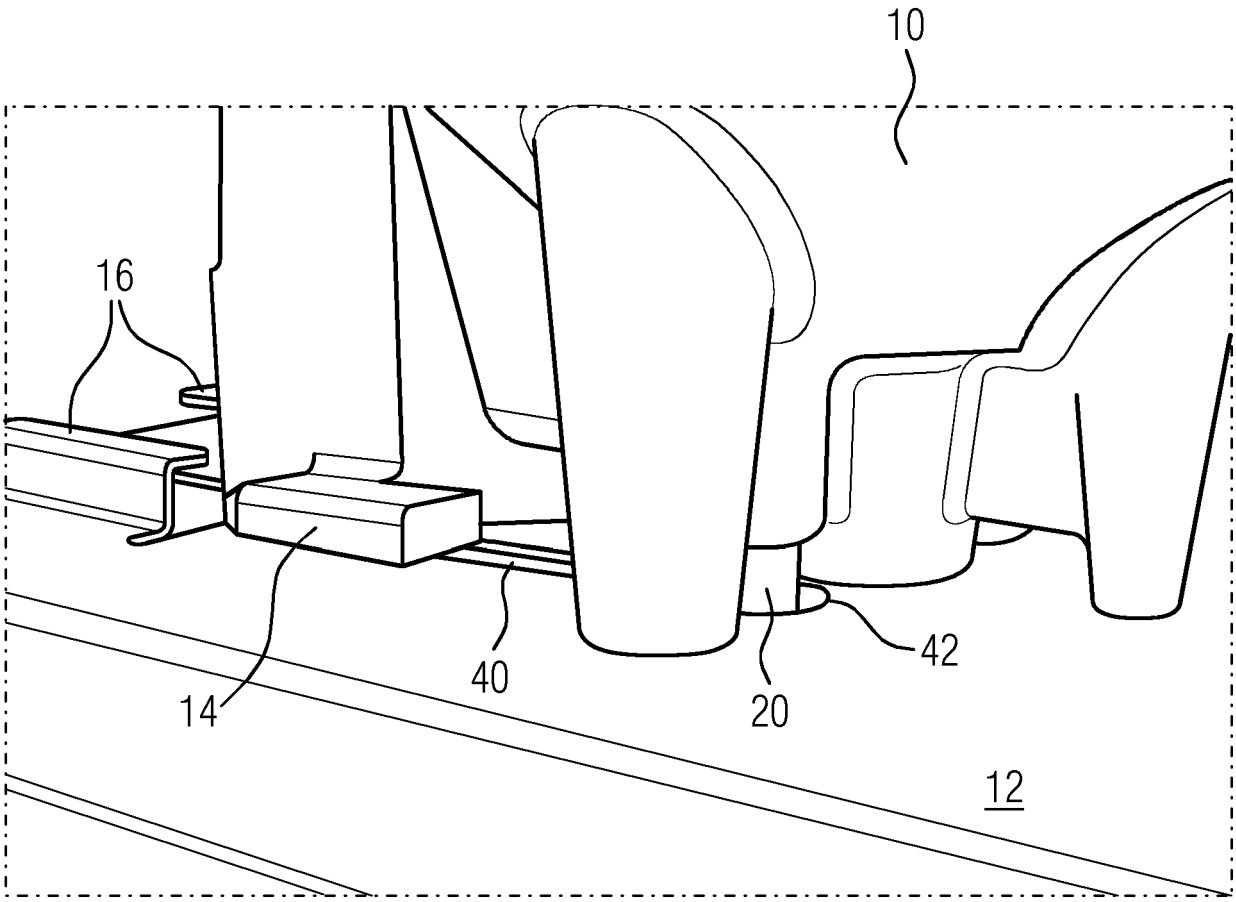


FIG 15

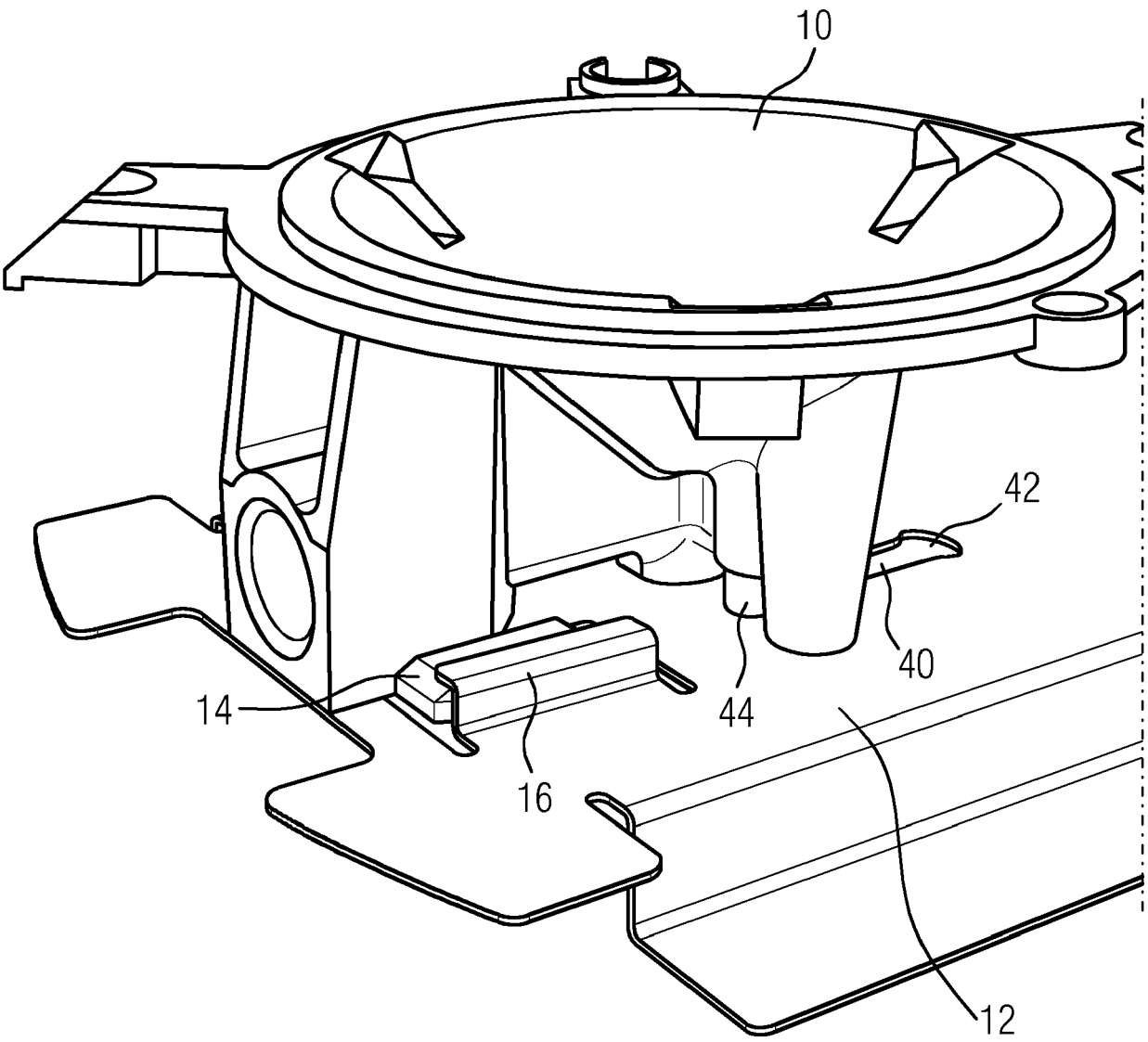


FIG 16

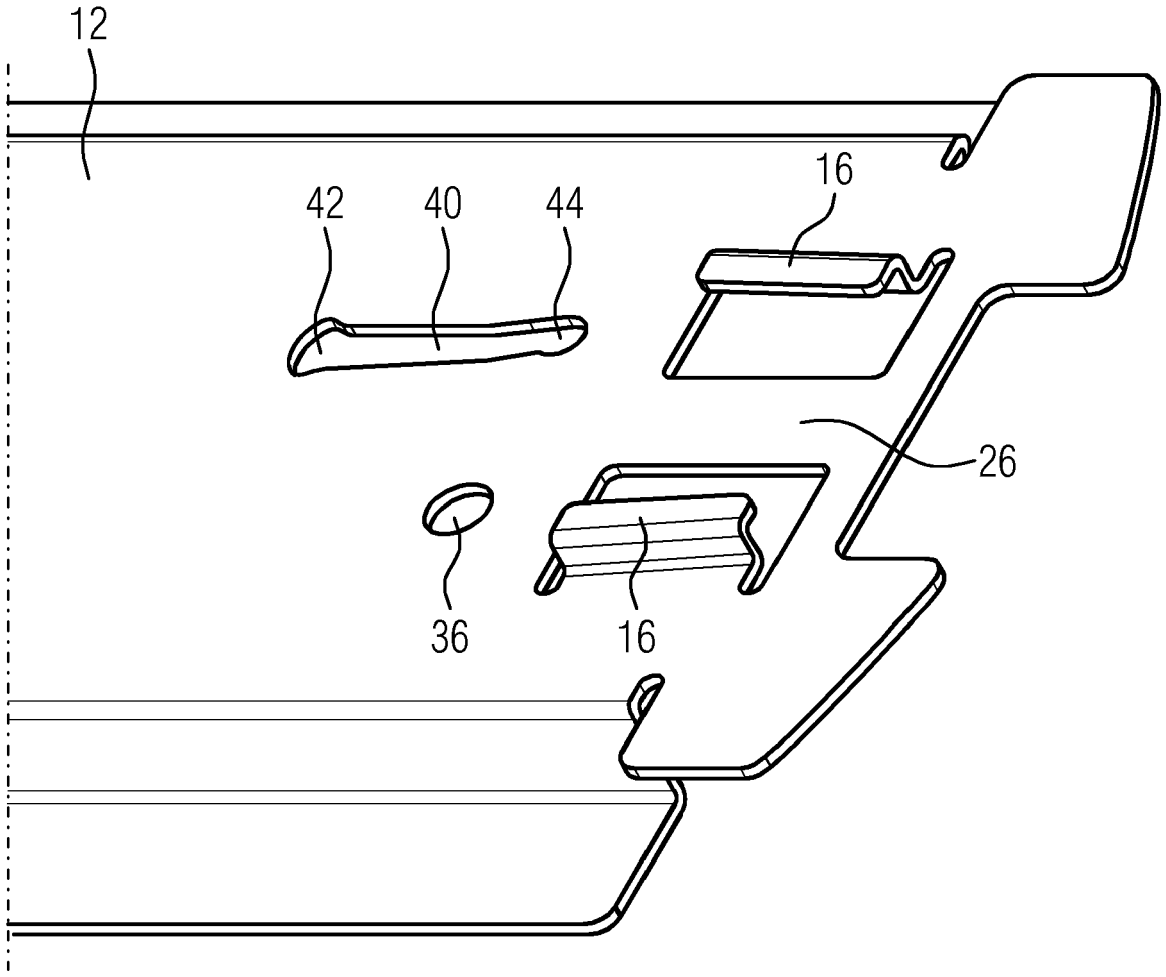


FIG 17

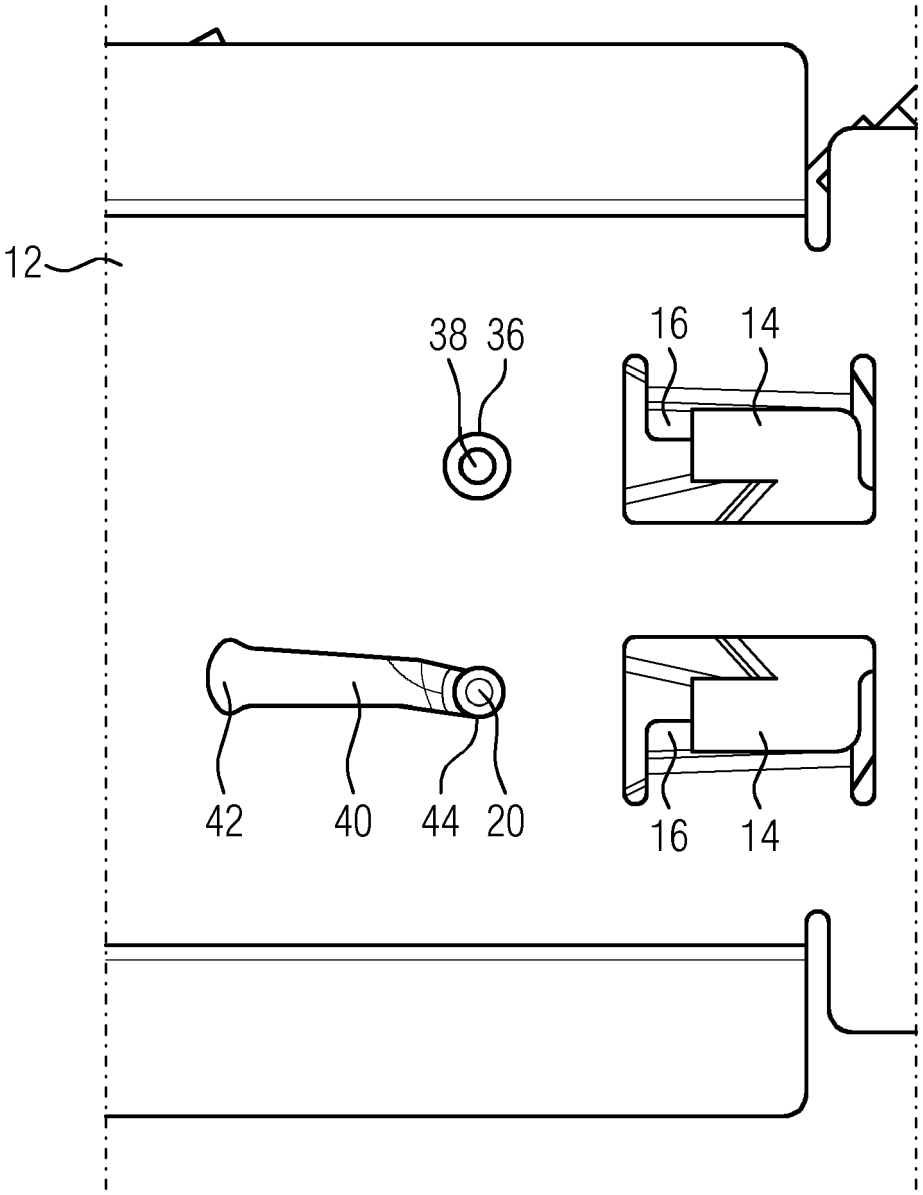


FIG 18

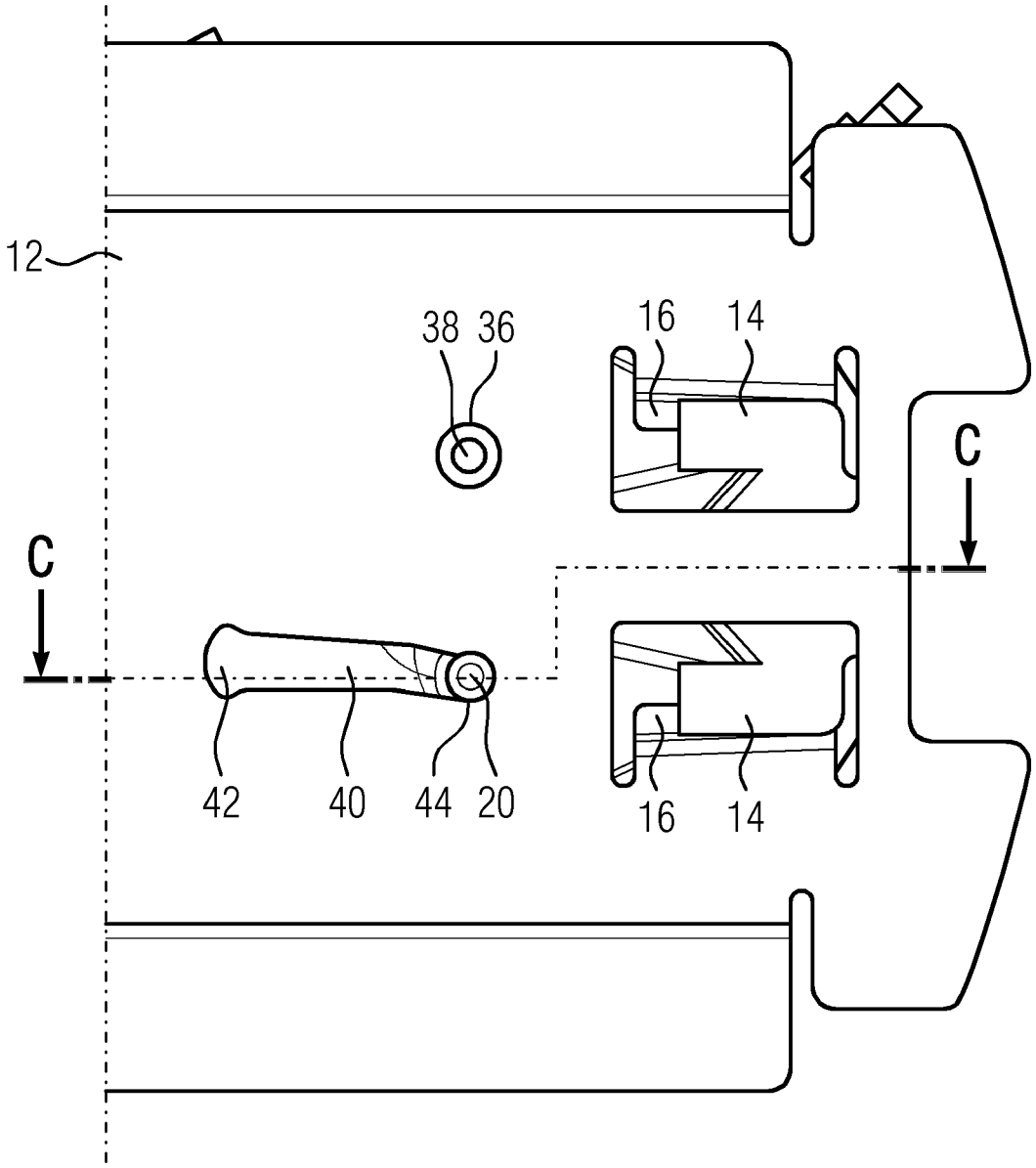
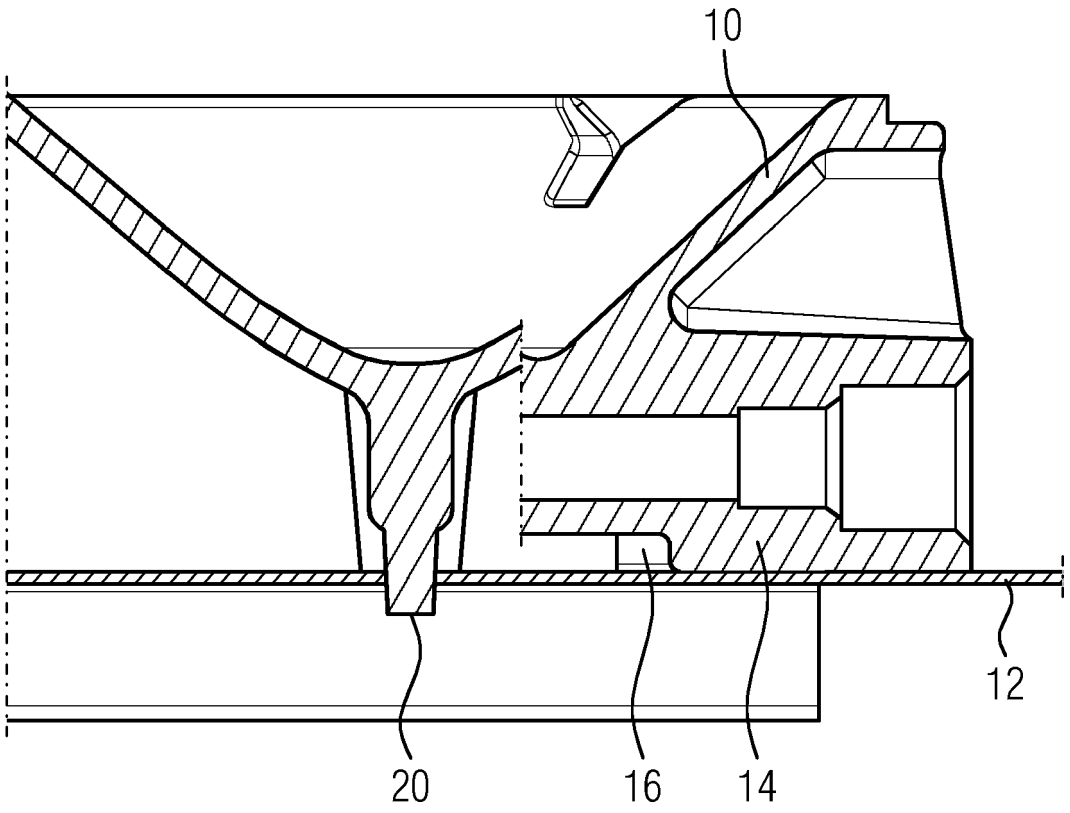


FIG 19



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EUROPEAN SEARCH REPORT

Application Number
EP 18 21 2850

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	US 2018/023815 A1 (DUFFY PATRICK J [US] ET AL) 25 January 2018 (2018-01-25) * figure 8 * -----	1-4	INV. F24C3/08 F23C5/02
X	WO 2017/012826 A1 (ELECTROLUX APPLIANCES AB [SE]) 26 January 2017 (2017-01-26) * figure 1 * -----	1	
X	EP 0 485 645 A1 (MIRALFIN SRL [IT]) 20 May 1992 (1992-05-20) * figure 1 * -----	1	
X	JP S60 160311 U (NORITSU CO LTD) 24 October 1985 (1985-10-24) * figures 1-3 * -----	1	
X	JP S58 6523 U (ISHIBASHI J.) 17 January 1983 (1983-01-17) * figure 1A * -----	5-7,11	
X	JP S43 13130 Y1 (MASAO SUGAYA) 5 June 1968 (1968-06-05) * figure 1 * -----	5	TECHNICAL FIELDS SEARCHED (IPC) F24C F23C F23D F16L
X	US 2014/261385 A1 (KADUS SACHIN [IN] ET AL) 18 September 2014 (2014-09-18) * figure 2 * -----	5	

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
The Hague	26 August 2019	Adant, Vincent

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)

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European Patent Office
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Application Number
EP 18 21 2850

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

1-13

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 18 21 2850

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-4

   Burner body comprising lateral wings

   ---

2. claims: 5-13

   Metal sheet plate comprising slide rails

   ---

3. claims: 14, 15

   Fastening system suitable for a burner body.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 21 2850

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
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26-08-2019

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