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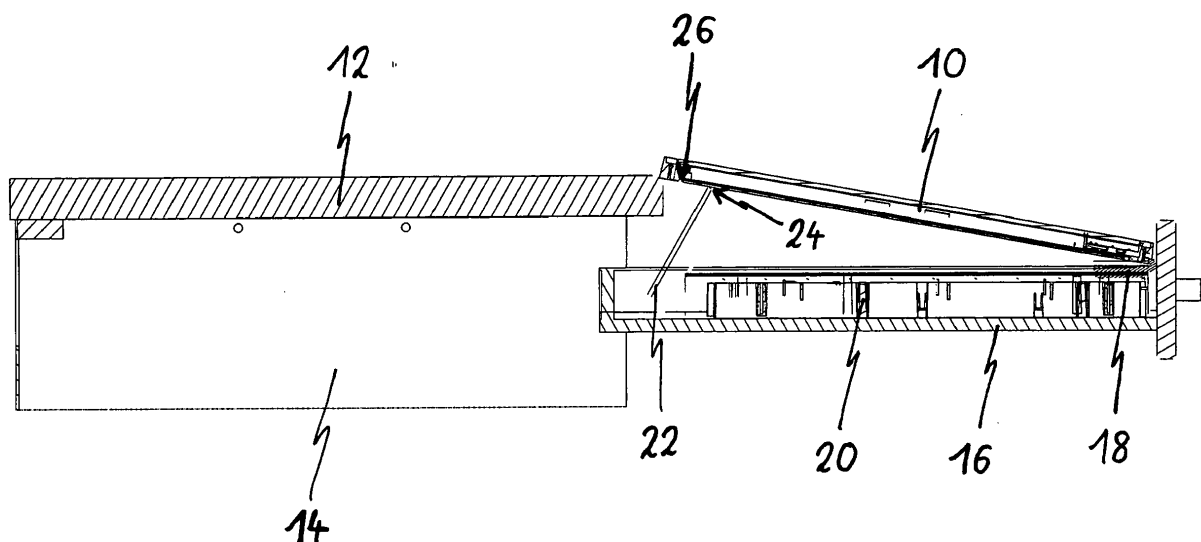
Remarks:
Amended claims in accordance with Rule 137(2) EPC.

(54) **A cooking hob including an upper part and a base part**

(57) The present invention relates to a cooking hob including an upper part (10) and a base part (20). The upper part (10) and the base part (20) are separate components. The upper part (10) comprises at least one cooking zone. The upper part (10) and the base part (20) are connected via at least one supply line (18). The base

part (20) is permanently installed or installable within a drawer (16) arranged below a worktop (12). The upper part (10) is moveably and/or detachably installed or installable above the base part (20) and within the drawer (16). The upper part (10) is moveable between the interior of the drawer (12) and an upper surface of the base part (20).

FIG. 1



Description

[0001] The present invention relates to a cooking hob including an upper part and a base part, wherein the upper part and the base part are separate components and interconnected via at least one supply line.

[0002] A usual cooking hob is installed within a worktop of the kitchen. The worktop comprises a cutout for receiving the cooking hob. If the cooking hob should be positioned on another place, then the worktop has to be replaced by a new worktop, since the cutout cannot be removed without any traces.

[0003] It is an object of the present invention to provide a cooking hob, which may be installed on and removed from a worktop without any cutout in said worktop.

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

[0005] According to the present invention the cooking hob includes an upper part and a base part, wherein:

- the upper part and the base part are separate components,
- the upper part comprises at least one cooking zone,
- the upper part and the base part are connected via at least one supply line,
- the base part is permanently installed or installable within a drawer arranged below a worktop,
- the upper part is moveably and/or detachably installed or installable above the base part and within the drawer, and
- the upper part is moveable between the interior of the drawer and an upper surface of the base part.

[0006] The main idea of the present invention is the two-part cooking hob, wherein the upper part is moveable between the drawer and the upper side of the worktop, and wherein the base part is permanently in the drawer. The cooking hob of the present invention requires no cutout in the worktop.

[0007] According to a preferred embodiment of the present invention the cooking hob is an induction cooking hob, wherein the upper part comprises a glass ceramics panel and at least one induction coil, and the base part comprises at least one generator.

[0008] Further, a user interface may be applied on the upper part, in particular on the glass ceramics panel.

[0009] Alternatively, user interface may be arranged at a front panel of the drawer.

[0010] Preferably, the upper part comprises at least one roll at its bottom side. The roll minimizes the friction between the upper part and the surface of the worktop.

[0011] In particular, the at least one roll is arranged in a rear portion of the upper part.

[0012] Further, the at least one supply line runs in a front portion of the drawer and/or on a front portion of the worktop.

[0013] For example, the at least one supply line is a flexible cable, in particular a ribbon cable.

[0014] Alternatively or additionally, the at least one supply line runs through a channel penetrating into the front panel of the drawer.

[0015] According to a preferred embodiment of the present invention at least one lifting device is arranged between the drawer and the upper part.

[0016] For example, the lifting device is a spring system with at least one pivoting lever.

[0017] Alternatively, the lifting device is a telescopic column.

[0018] Novel and inventive features of the present invention are set forth in the appended claims.

[0019] The present invention will be described in further detail with reference to the drawings, in which

FIG 1 illustrates a schematic sectional side view of a cooking hob in an intermediate position according to a first embodiment of the present invention,

FIG 2 illustrates a schematic sectional side view of the cooking hob in an operating position according to the first embodiment of the present invention,

FIG 3 illustrates a schematic perspective view of the cooking hob in the operating position according to the first embodiment of the present invention,

FIG 4 illustrates a schematic sectional side view of the cooking hob in a stored position according to a second embodiment of the present invention,

FIG 5 illustrates a schematic sectional side view of the cooking hob in the intermediate position according to the second embodiment of the present invention,

FIG 6 illustrates a schematic sectional side view of the cooking hob in the operating position according to the second embodiment of the present invention, and

FIG 7 illustrates a schematic perspective view of the cooking hob in the operating position according to the second embodiment of the present invention.

[0020] FIG 1 illustrates a schematic sectional side view of a cooking hob in an intermediate position according to a first embodiment of the present invention. In the intermediate position the cooking hob is between a stored position and an operating position.

[0021] The cooking hob includes an upper part 10 and a base part 20. The upper part 10 and the base part 20 of the cooking hob are formed as separate units. The upper part 10 is connected to the base part 20 via a supply

line 18. Those components, which are usually contained in a conventional cooking hob, are distributed over the upper part 10 and the base part 20.

[0022] In this example, the cooking hob is an induction cooking hob. The upper part 10 comprises a glass ceramic panel and induction coils below said glass ceramic panel. Further, the upper part 10 comprises a user interface, which is preferably applied on the glass ceramic panel. The base part 20 comprises electric and/or electronic circuits and in particular generators providing the induction coils. The supply line 18 includes electric lines.

[0023] The cooking hob is installed in a floor cupboard 14. The floor cupboard 14 comprises a drawer 16. A top side of the floor cupboard 14 is covered by a worktop 12. The base part 20 of the cooking hob is permanently installed in the drawer 16. The upper part 10 of the cooking hob is on the worktop 12, when said upper part 10 is in an operating position. In contrast, the upper part 10 of the cooking hob is within the drawer 16 above the base part 20 of the cooking hob, when said upper part 10 is in a stored position.

[0024] The upper part 10 of the cooking hob is moveable between the interior of the drawer 16 and the upper surface of the worktop 12. The supply line 18 is flexible, so that the distance between the upper part 10 and the base part 20 of the cooking hob is variable. The upper part 10 of the cooking hob can be folded out of the drawer 16 onto the worktop 12.

[0025] Before the cooking hob is used, the user has to pull out the drawer 16. Then the upper part 10 of the cooking hob is lifted by a spring system 22. The spring system 22 is placed inside the drawer 16. The spring system 22 includes at least one lever folded up by one or more springs, when the drawer 16 has been pulled out. The lever of the spring system 22 lifts the upper part 10 of the cooking hob. At least one roll 24 is arranged at an upper end of the lever, so that the friction between the spring system 22 and the upper part 10 of the cooking hob is minimized.

[0026] At least one further roll 26 is arranged at the bottom side of the rear upper part 10 of the cooking hob in order to minimize the friction between said upper part 10 and the top surface of the worktop 12. The one or more further rolls 26 at the bottom side of the upper part 10 facilitate the movement of said upper part 10 on the worktop 12. When the user pushes in the drawer 16, then the upper part 10 is placed in the operating position.

[0027] FIG 2 illustrates a schematic sectional side view of the cooking hob 10 in the operating position according to the first embodiment of the present invention. The drawer 16 has been pushed into the floor cupboard 14 and closed by the user. The supply line 18 runs from the base part 20 to the upper part 10 through a slot between the drawer 16 and the worktop 12.

[0028] FIG 3 illustrates a schematic perspective view of the cooking hob 10 in the operating position according to the first embodiment of the present invention. FIG 3 clarifies the arrangement of the upper part 10 of the cook-

ing hob on the worktop 12.

[0029] The upper part 10 of the cooking hob lies upon the worktop 12. It is not necessary that the worktop 12 includes a cutout for the cooking hob. Since the upper part 10 of the cooking hob includes the glass ceramics panel, the induction coils and the user interface, but no generators and no large electric and/or electronic circuits, said upper part 10 is relative flat.

[0030] Further, FIG 3 clarifies the run of the supply line 18 from the interior of the drawer 16 to the upper part 10. The supply line 18 is a ribbon cable including a plurality of electric lines.

[0031] The cooking hob according to the first embodiment may be installed in a conventional drawer 16. In particular, the cooking hob of the first embodiment may be installed in an already existing drawer 16.

[0032] The cooking hob may include a sensor for detecting the operating position of the upper part 10. When the sensor recognizes that the upper part 10 is in the operating position, then the sensor sends a signal that the cooking hob can be run.

[0033] FIG 4 illustrates a schematic sectional side view of the cooking hob 10 in a stored position according to a second embodiment of the present invention. In the stored position the cooking hob is completely within the drawer 16.

[0034] The base part 20 of the cooking hob is permanently installed on the bottom of the drawer 16. The upper part 10 of the cooking hob is arranged above the base part 20. The upper part 10 is connected to the base part 20 via supply lines 18. The components of the usual conventional cooking hob are distributed over the upper part 10 and the base part 20.

[0035] The cooking hob of the second embodiment is also an induction cooking hob. The upper part 10 comprises a glass ceramic panel and induction coils below said glass ceramic panel. Moreover, the upper part 10 comprises a user interface. Preferably, said user interface is applied on the glass ceramic panel. The base part 20 comprises the generators providing the induction coils. Further, the base part 20 may comprise electric and/or electronic circuits. The supply line 18 includes electric lines.

[0036] The cooking hob is installed in the floor cupboard 14 covered by the worktop 12. The floor cupboard 14 comprises the drawer 16. The upper part 10 of the cooking hob is moveable between the interior of the drawer 16 and the upper surface of the worktop 12. The supply lines 18 are flexible, so that the distance between the upper part 10 and the base part 20 of the cooking hob is variable. The upper part 10 of the cooking hob can be lifted up out of the drawer 16 onto the worktop 12.

[0037] In the second embodiment the upper part 10 of the cooking hob is connected to a front panel of the drawer 16. Further, a rear portion of the upper part 10 is supported by a holding device 28. In this example, the holding device 28 is a telescopic holder. The holding device 28 is placed inside the drawer 16. The holding device 28

provided to lift the upper part 10 of the cooking hob, after the drawer 16 has been pulled out.

[0038] FIG 5 illustrates a schematic sectional side view of the cooking hob 10 in the intermediate state according to the second embodiment of the present invention. The drawer 16 has been pulled out by the user. Then, the upper part 10 of the cooking hob has been lifted by the holding device 28.

[0039] The roll 26 is arranged at the bottom side of the rear upper part 10 of the cooking hob. Thus, the friction between said upper part 10 and the top surface of the work top 12 is minimized. The one or more rolls 26 at the bottom side of the upper part 10 facilitate the movement of said upper part 10 on the worktop 12. When the user pushes in the drawer 16, then the upper part 10 is placed on the worktop 12 in the operating position.

[0040] FIG 6 illustrates a schematic sectional side view of the cooking hob 10 in the operating position according to the second embodiment of the present invention. The drawer 16 has been pushed into the floor cupboard 14, wherein the upper part 10 has been placed on the worktop 12 in the operating position.

[0041] Now, the holding device 28 is in a lower position. The holding device 28 may comprise one or more sensors for detecting that the upper part 10 is on the worktop 12 and the drawer 16 is closed.

[0042] FIG 7 illustrates a schematic perspective view of the cooking hob 10 in the operating position according to the second embodiment of the present invention.

[0043] FIG 7 clarifies that the supply lines 18 run inside the front panel of the drawer 16 or are attached at the rear side of said front panel. In this example, the supply lines 18 run within channels between the front panel and the upper part 10. Said channels may be a part of a frame enclosing the upper part 10. The user interface may be a part of said frame.

[0044] In both embodiments the temperature may be detected by one or more sensors in order to prevent, that the upper part 10 is folded or lifted back into the drawer 16 before said upper part 10 is cold enough. The cooking hob may remind the user by acoustic or visual signals that the upper part 10 is still too hot. In the second embodiment, a mechanical interlock controlled by a time and/or temperature sensor may prevent that the upper part is put back into the drawer 16, if the temperature is still too high.

[0045] The cooking hob described above is an induction cooking hob. In general, the present invention may by also relate to other cooking hobs, e.g. electric and/or gas-powered cooking hobs.

[0046] Although two 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 that 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 intend-

ed to be included within the scope of the invention as defined by the appended claims.

List of reference numerals

[0047]

- 10 upper part of the cooking hob
- 12 worktop
- 14 floor cupboard
- 16 drawer
- 18 supply line
- 20 base part of the cooking hob
- 22 spring system
- 24 roll of the spring system
- 26 roll of the upper part
- 28 holding device

Claims

1. A cooking hob including an upper part (10) and a base part (20), wherein:
 - the upper part (10) and the base part (20) are separate components,
 - the upper part (10) comprises at least one cooking zone,
 - the upper part (10) and the base part (20) are connected via at least one supply line (18),
 - the base part (20) is permanently installed or installable within a drawer (16) arranged below a worktop (12),
 - the upper part (10) is moveably and/or detachably in stalled or installable above the base part (20) and within the drawer (16), and
 - the upper part (10) is moveable between the interior of the drawer (12) and an upper surface of the base part (20).
2. The cooking hob according to claim 1, characterized in, that the cooking hob is an induction cooking hob, wherein the upper part (10) comprises a glass ceramics panel and at least one induction coil, and the base part (20) comprises at least one generator.
3. The cooking hob according to claim 1 or 2, characterized in, that

a user interface is applied on the upper part (10), in particular on the glass ceramics panel.

4. The cooking hob according to claim 1,
characterized in, that 5
a user interface is arranged at a front panel of the drawer (16).
5. The cooking hob according to any one of the pre-
ceding claims, 10
characterized in, that
the upper part (10) comprises at least one roll (26)
at its bottom side.
6. The cooking hob according to claim 5, 15
characterized in, that
the at least one roll (26) is arranged in a rear portion
of the upper part (10).
7. The cooking hob according to any one of the pre-
ceding claims, 20
characterized in, that
the at least one supply line (18) runs in a front por-
tion of the drawer (16) and/or on a front portion of
the worktop (12). 25
8. The cooking hob according to any one of the pre-
ceding claims, 30
characterized in, that
the at least one supply line (18) is a flexible cable,
in particular a ribbon cable.
9. The cooking hob according to any one of the claims
1 to 7, 35
characterized in, that
the at least one supply line (18) runs through a chan-
nel penetrating into the front panel of the drawer (16).
10. The cooking hob according to any one of the pre-
ceding claims, 40
characterized in, that
at least one lifting device (22; 28) is arranged be-
tween the drawer (16) and the upper part (10).
11. The cooking hob according to claim 10, 45
characterized in, that
the lifting device (22) is a spring system with at least
one pivoting lever.
12. The cooking hob according to claim 10, 50
characterized in, that
the lifting device (22) is a telescopic column.

Amended claims in accordance with Rule 137(2) EPC. 55

1. A cooking hob including an upper part (10) and a

base part (20), wherein:

- the upper part (10) and the base part (20) are separate components,
- the upper part (10) comprises at least one cook-
ing zone,
- the upper part (10) and the base part (20) are
connected via at least one supply line (18),
- the base part (20) is permanently installed or
installable within a drawer (16) arranged below
a worktop (12),
- the upper part (10) is moveably and/or detach-
ably installed or installable above the base part
(20) and within the drawer (16), and
- the upper part (10) is moveable between the
interior of the drawer (12) and an upper surface
of the base part (20),

characterized in, that

at least one lifting device (22; 28) is arranged be-
tween the drawer (16) and the upper part (10) of the
cooking hob.

2. The cooking hob according to claim 1,

characterized in, that

the cooking hob is an induction cooking hob, wherein
the upper part (10) comprises a glass ceramics panel
and at least one induction coil, and the base part (20)
comprises at least one generator.

3. The cooking hob according to claim 1 or 2,

characterized in, that

a user interface is applied on the upper part (10), in
particular on the glass ceramics panel.

4. The cooking hob according to claim 1,

characterized in, that

a user interface is arranged at a front panel of the
drawer (16).

5. The cooking hob according to any one of the pre- ceding claims,

characterized in, that

the upper part (10) comprises at least one roll (26)
at its bottom side.

6. The cooking hob according to claim 5,

characterized in, that

the at least one roll (26) is arranged in a rear portion
of the upper part (10).

7. The cooking hob according to any one of the pre- ceding claims,

characterized in, that

the at least one supply line (18) runs in a front portion
of the drawer (16) and/or on a front portion of the
worktop (12).

8. The cooking hob according to any one of the preceding claims,
characterized in, that
the at least one supply line (18) is a flexible cable,
in particular a ribbon cable.

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9. The cooking hob according to any one of the claims 1 to 7,
characterized in, that
the at least one supply line (18) runs through a channel penetrating into the front panel of the drawer (16).

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10. The cooking hob according to any one of the preceding claims,
characterized in, that
the lifting device (22) is a spring system with at least one pivoting lever.

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11. The cooking hob according to any one of the preceding claims,
characterized in, that
the lifting device (22) is a telescopic column.

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FIG. 1

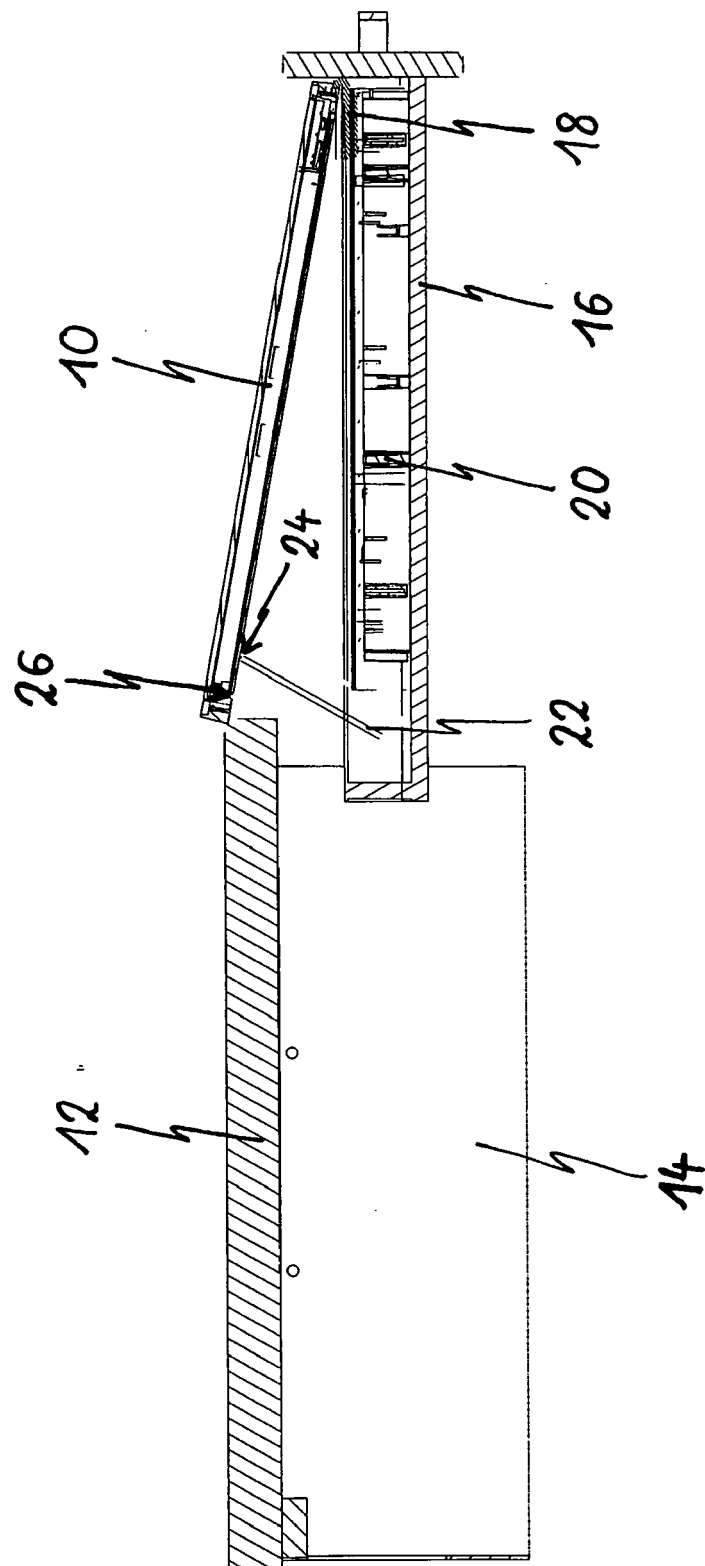


FIG. 2

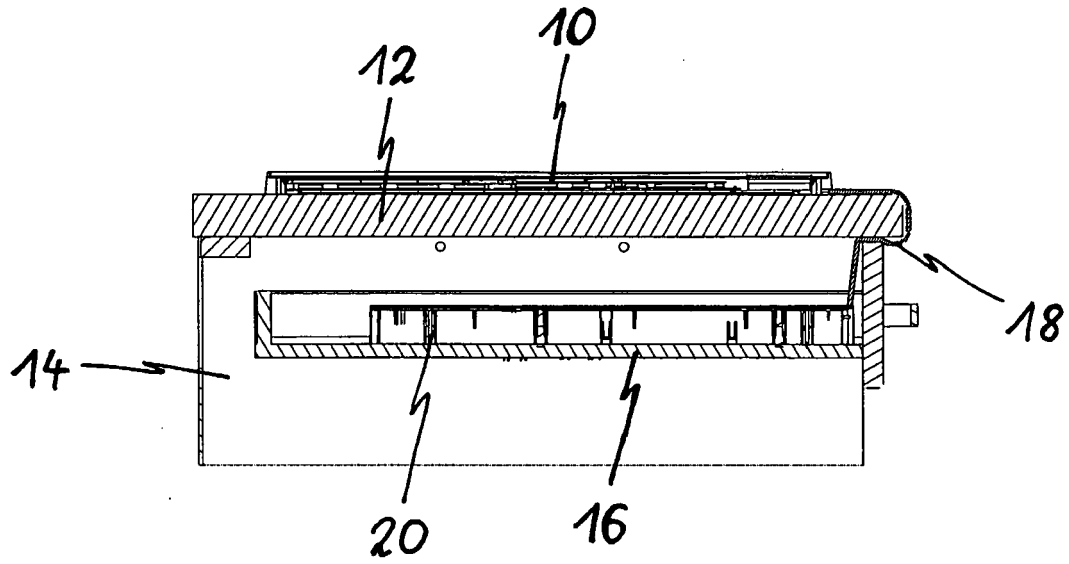


FIG. 3

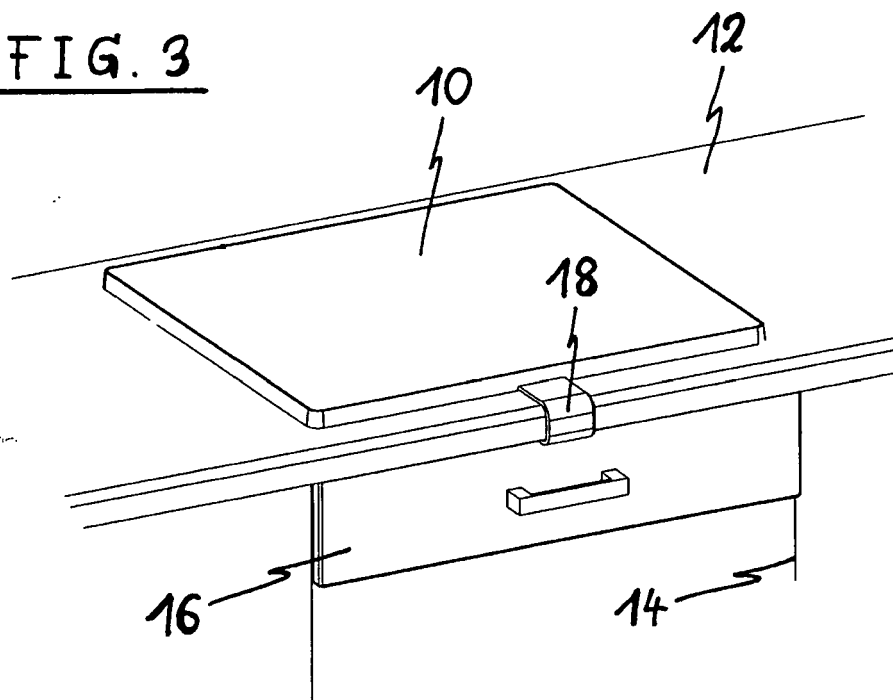


FIG. 4

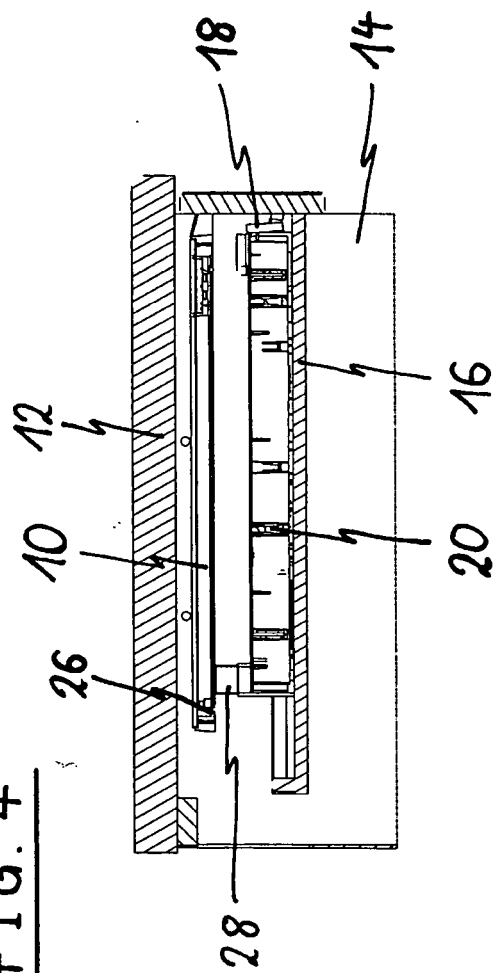


FIG. 5

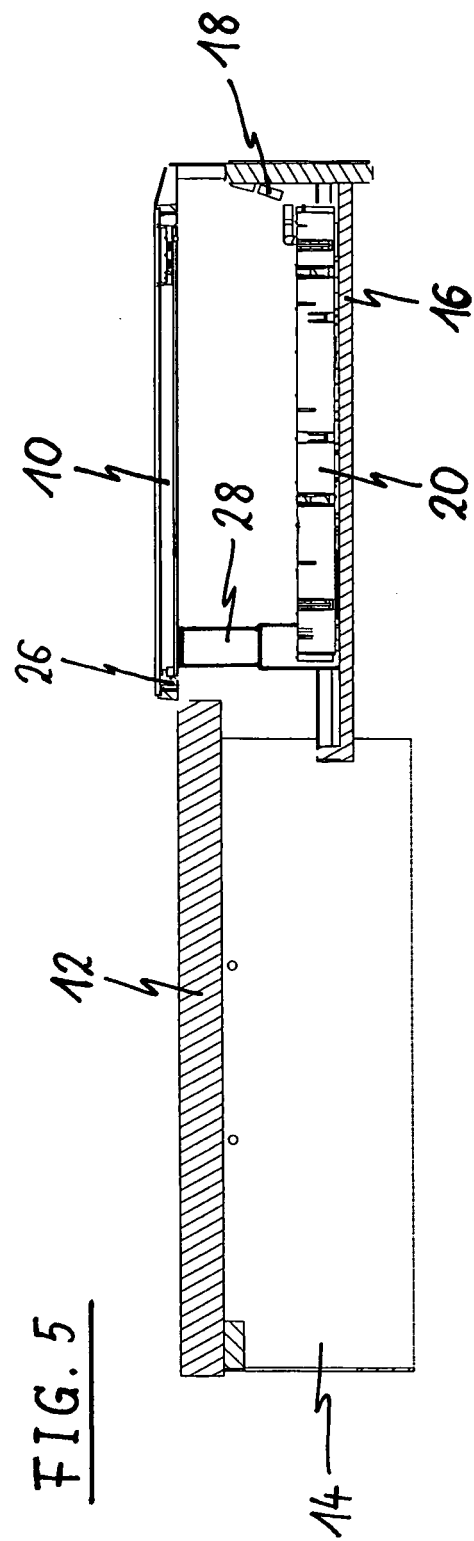


FIG. 6

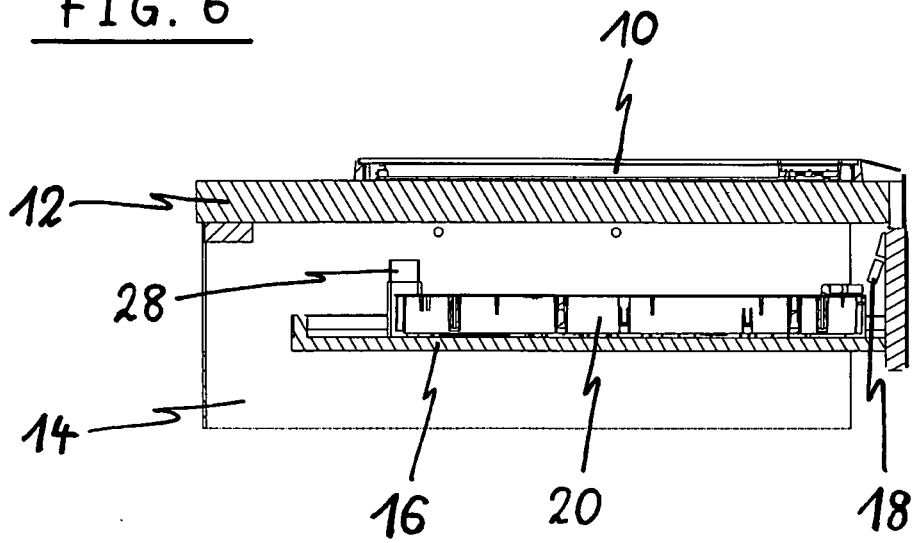
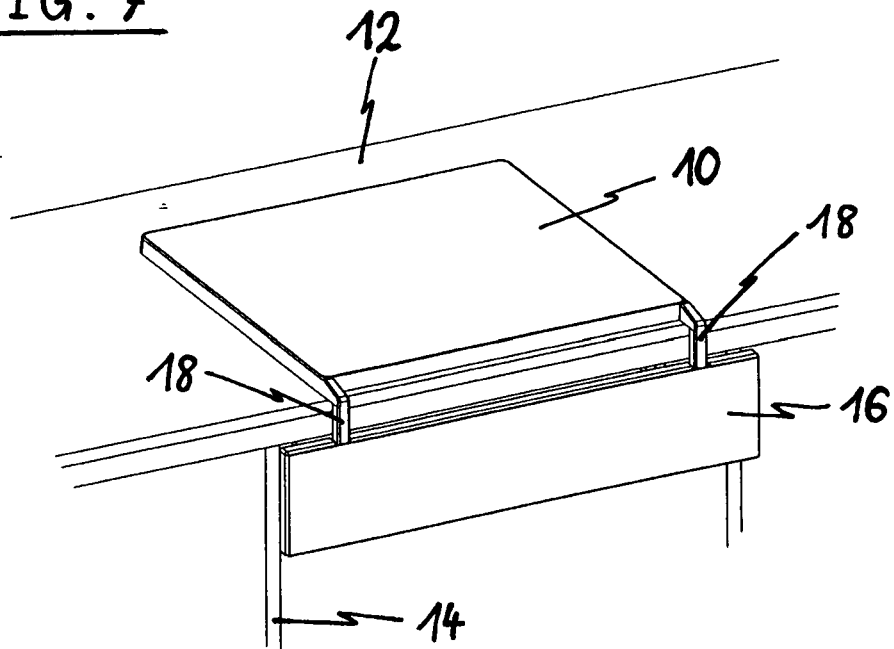


FIG. 7





EUROPEAN SEARCH REPORT

Application Number
EP 10 01 5863

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	* abstract; figures 2-5 * * paragraphs [0010] - [0012], [0016], [0017], [0020], [0022] - [0024] *	2,3	
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 3 May 2011	Examiner Moreno Rey, Marcos
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			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 01 5863

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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