

Description

[0001] The present invention relates to a protection device for protecting the access to a hob (or cooking top). More particularly the present invention relates to a protection device to be applied to a cooker hob for safeguarding people at risk, such as children and aged or handicapped persons, against approaching the hob and especially containers placed on the rings of the hob while food is being cooked.

[0002] Safety devices are known that are intended to prevent the access to a hob by people at risk (e.g. children and aged or handicapped persons), who could burn themselves by touching the containers placed on the rings or by spilling the contents of said containers on themselves.

[0003] For instance, AU-A-59355/86 discloses a protection device intended to prevent access to the rings of a hob, which device is hinged to a cooker top so as to be movable from a rest position, where the device is in a substantially vertical position, to an operating position where the device is in a substantially horizontal position and, by means of a screen, protects the access to the hob and the cooking rings by people at risk.

[0004] A similar device is disclosed also in FR 2610704.

[0005] Said known devices have the drawback that the screen of the protection device, which is arranged to prevent the access to the cooking rings when in its operating position, in its rest position becomes a hindrance surface that prevents or hinders the suction of cooking smokes or gases and/or the lighting of the hob.

[0006] Another drawback of the known devices is that they are to be equipped, in their rest position, with locking elements that are arranged to provide stability to the substantially vertical position of the safety device, what makes the device more complex and expensive.

[0007] In the alternative, instead of including locking elements into the safety device, it is possible to envisage that, in its rest position, the device abuts against the wall behind the hob, but this makes devices of such kind unsuitable for application to hobs of cookers with a so-called "island" structure.

[0008] In more general manner, the prior art devices cannot be used when the hob belongs to cookers with an island structure, where the hob itself can be accessed from two opposite sides.

[0009] It is an object of the present invention to overcome the drawbacks of the prior art, by providing a protection device for hobs that, while providing a great protecting surface, does not hinder the flow of smokes and the lighting of the hob.

[0010] It is a further object of the invention to provide a protection device that can be associated with hobs of any kind, especially with hobs of cookers with an island structure.

[0011] The above and other objects are achieved by means of a protection device as claimed in the appended

claims.

[0012] The screen of the protection device according to the invention may be pivoted by an angle of substantially 180° about a pair of pivots that are located at substantially mid height of said screen. Thanks to such an arrangement, said screen can be moved from a first position, in which it rests on the cooker top receiving the hob, externally of the latter, in correspondence of a first side of said hob, to a second position, in which it also rests on the cooker top receiving the hob, externally of the latter, in correspondence of a second side of said hob, opposite to the first one.

[0013] Advantageously, in both positions, the screen rests on the cooker top receiving the hob so as to be in a stable equilibrium condition. Thus, the need for locking means for keeping said screen in a predetermined position is avoided.

[0014] Moreover, since in both positions the screen is always located externally of the hob, it is not of obstacle to the proper smoke suction and the proper lighting of the hob.

[0015] The skilled in the art will immediately realise that the device according to the invention is particularly suited for use in cookers with an island structure, since it allows preventing access of people at risk to a hob from either a first side of the hob or from a second side of the hob, opposite to the first one, depending on the requirements.

[0016] Otherwise stated, whereas in case of traditional cookers with linear structure it will be possible to identify an operating position, in which the protection screen is located between the user and the hob, and a rest position, in which the protection screen is located between the hob and the wall behind, in case of cookers with a so-called island structure the protection screen will move from a first operating position to a second operating position on each one of both opposite and accessible sides of the hob, respectively.

[0017] Further features and advantages of the invention will become apparent from the following detailed description of an embodiment of the invention, given by way of example with reference to the accompanying drawings, in which:

- Fig. 1 is a perspective view of a hob including the protection device according to the invention;
- Fig. 2 is a side view of the hob shown in Fig. 1;
- Fig. 3 is an enlarged cross sectional view, taken along a median line, of a detail of the hob shown in Fig. 1, highlighting the front wall of the screen and the safety clip;
- Fig. 4 is a cross-sectional view of the protection device according to the invention, highlighting the system connecting the front wall and the side members of the screen;
- Fig. 5 is a front view of the front wall of the screen of the protection device according to the invention.

[0018] Referring to Fig. 1, there is shown a hob 10, which is inserted in known manner into a cooker top 14, comprises a plurality of rings 12 of known type, for instance gas or electric rings, and is equipped with a protection device 1 according to the invention for protecting the access to the hob itself, in particular by people at risk.

[0019] Protection device 1 includes a pair of supporting brackets 3a, 3b arranged to be secured to top 14 receiving hob 10. Said supporting brackets 3a, 3b are secured to said top in known manner, for instance by screws or by gluing.

[0020] Protection device 1 further includes a frame 5 pivotally mounted onto supporting brackets 3a, 3b by means of pivots 7a, 7b.

[0021] Said frame 5 includes a screen 9 comprising a front wall 9c and two side members 9a, 9b. Said side members are L-shaped and have each an arm secured to front wall 9c and the other arm rigidly connected to one end of a corresponding side rod 11a, 11b, the opposite end of which is pivotally connected to a respective supporting bracket 3a, 3b.

[0022] In the alternative, front wall 9c and side members 9a, 9b can be made as a single piece, whereby a substantially C-shaped screen 9 is obtained.

[0023] Advantageously, for reasons that will become apparent hereinafter, supporting brackets 3a, 3b and screen 9 are so sized that pivots 7a, 7b to which side rods 11a, 11b of frame 5 are pivotally connected are at a level, i.e. at a distance from the base of supporting brackets 3a, 3b, substantially equal to half the height of front wall 9c of screen 9.

[0024] Said frame 5 is preferably made of a material with high thermal conductivity, in particular a metal (for instance aluminium) or a metal alloy.

[0025] Referring to Fig. 3, front wall 9c of screen 9 may have, in its upper part, a bent edge 13a, preferably directed towards hob 10 so that it cannot be reached by people at risk (e.g. children), and equipped with a gasket 15, for instance made of rubber or similar material.

[0026] Possibly, bent edge 13a can be replaced by a handle with reduced size, located on top front wall 9c of screen 9.

[0027] Yet, bent edge 13a, besides providing a comfortable grip for moving screen 9, also gives a greater stiffness to front wall 9c of screen 9, thereby preventing its deformation.

[0028] Still referring to Fig. 3, screen 9 may also have, in its lower part, a second bent edge 13b, equipped with a second gasket 15, for instance made of rubber or similar material and preferably identical to gasket 15a. Gasket 15b rests onto cooker top 14 receiving hob 10 and assists in slowing down a possible flow of liquids, for instance very hot liquids, boiled over pans present in the area of rings 12.

[0029] Turning back to Fig. 1, according to the invention, supporting brackets 3a, 3b can be secured to top 14 substantially in correspondence of the middle point of a pair of opposite hob sides 10b, 10d, and frame 5 is

preferably so sized that the overall size of each side rod 11a, 11b and the corresponding side member 9a, 9b of screen 9 slightly exceeds half the length of said opposite hob sides 10b, 10d. In this manner, front wall 9c of screen 9 rests upon top 14 externally of hob 10 and is substantially parallel to a first hob side 10a, lying between said opposite sides 10b, 10d. Advantageously moreover side members 9a, 9b of screen 9 lick hob 10, so as to make the screen more stable.

[0030] As it is apparent from Fig. 1, screen 9, in particular thanks to front wall 9c, thus prevents people at risk, such as children and aged or handicapped persons, from touching pans, if any, present on hob 10 and exposed to high temperatures, or from overturning such pans. Moreover screen 9, since it rests upon top 14 receiving hob 10, has no grips for being possibly lifted, and only an adult can access edge 13, advantageously bent towards the inside of screen 9.

[0031] Turning now to Fig. 2, according to the invention, frame 5 can be pivoted about pivots 7a, 7b by an angle of substantially 180° (arrow F in Fig. 2) in order to move from a first position, corresponding to the position shown in Fig. 1, where front wall 9c of screen 9 rests on top 14 externally of hob 10 and is substantially parallel to a first side 10a of hob 10, to a second position, shown in dashed line in Fig. 2, where said front wall 9c of screen 9 rests on top 14 externally of hob 10 and is substantially parallel to a second hob side 10c, opposite to said first side 10a.

[0032] It is apparent from Fig. 2 that, since pivots 7a, 7b about which frame 5 is pivoted are substantially at mid height of front wall 9c of screen 9, frame 5 is at a stable equilibrium condition in both positions shown, with screen 9 firmly resting on top 14.

[0033] It is further to be appreciated that, once the screen has been moved to its second position shown in Fig. 2, front wall 9c of said screen 9 rests on bent edge 13a and gasket 15a. The provision of such a gasket will allow slowing down, also in that second position of the screen, the flow of liquids boiled over pans present in the area of rings 12.

[0034] Moreover, screen 9 does not hinder either the proper smoke suction or the proper lighting of the hob itself, since it is located outside hob 10 in both positions.

[0035] To this end, moreover, front wall 9c of screen 9 is flat and substantially perpendicular to side rods 11a, 11b.

[0036] Moreover, the skilled in the art will readily appreciate that, since screen 9, depending on the position taken by frame 5, can protect the access to hob 10 from two opposite sides 10a, 10c of said hob, the protection device according to the invention can be effectively used not only with hobs in cookers with a conventional linear structure, but also with hobs in cookers with an island structure.

[0037] Turning now to Fig. 3, protection device 1 according to the invention may advantageously include a C-shaped safety clip 17 made of a resilient material and

arranged to lock the base of screen 19 to cooker top 14 receiving hob 10.

[0038] More particularly, as shown in Fig. 3, safety clip 17 can keep bent edge 13b and gasket 15b provided at the base of front wall 9c of screen 9 against cooker top 14. In this manner, a fortuitous lifting of screen 9 by people at risk is wholly prevented.

[0039] Referring to Figs. 4 and 5, the system for connecting front wall 9c of screen 9 to side members 9a, 9b is shown in detail.

[0040] Front wall 9c has, on each side, one or more slots 19a, 19b which are longitudinally arranged with respect to said front wall 9c, are parallel to each other and are vertically aligned (two slots on each side, in the illustrated example). In similar manner, each side member 9a, 9b has one or more throughholes 23a, 23b, also vertically aligned (two holes on each side, in the illustrated example), which can be superimposed to said slots for letting through fastening means 21a, 21b, such as screws, rivets or the like.

[0041] Advantageously, the provision of slots 19a, 19b allows placing side members 9a, 9b nearer or farther relative to each other depending on the size of the hob to which the device is applied. In this manner, the spacing of said side members 9a, 9b can be adapted to the size of hob 10 so that they lick hob 10, as described above.

[0042] The above description clearly shows that the present invention attains the desired objects, by providing a simple and cheap protection device, suitable for any kind of hob.

[0043] Further, it is clear that changes and modifications in the reach of the skilled in the art can be introduced in the described embodiment, without thereby departing from the scope of the invention as claimed in the appended claims.

Claims

1. A protection device (1) for protecting the access to a hob (10), the device comprising:

- a pair of supporting brackets (3a, 3b) arranged to be secured to a cooker top (14),
- a frame (5) including a screen (9), comprising a front wall (9c) and two side members (9a, 9b), and a pair of side rods (11a, 11b), which are each rigidly connected to an opposite side member (9a, 9b) of said screen (9) at a first end and are pivotally connected to a respective supporting bracket (3a, 3b) by means of pivots (7a, 7b) at the opposite end;

characterised in that said pivots are spaced from the base of said supporting brackets (3a, 3b) by a distance substantially equal to half the height of said front wall (9c) of said screen (9).

2. The protection device (1) as claimed in claim 1, wherein said frame (5) can pivot about said pivots (7a, 7b) by an angle of substantially 180°.

3. The protection device (1) as claimed in claim 1 or 2, wherein said front wall (9c) and said side members (9a, 9b) of said screen (9) are formed as a single piece.

4. The protection device (1) as claimed in claim 1 or 2, wherein said side members (9a, 9b) of said screen are L-shaped and have each one arm secured to said front wall (9c) and the other arm rigidly connected to the end of a corresponding side rod (11a, 11b).

5. The protection device (1) as claimed in claim 4, wherein said front wall (9c) has, on each side, one or more slots (19a, 19b), which are longitudinally arranged with respect to said front wall (9c), are parallel to each other and are vertically aligned, and, correspondingly, said side members (9a, 9b) have each one or more vertically aligned throughholes (23a, 23b), which can be superimposed to said slots for letting through fastening means (21a, 21b) such as screws, rivets or the like, for fastening said side members to said front wall.

6. The protection device (1) as claimed in any of claims 1 to 5, wherein said front wall (9c) of said screen (9) has, in its upper part, a bent edge (13a) equipped with a gasket (15a), for instance made of rubber or similar material.

7. The protection device (1) as claimed in any of claims 1 to 6, wherein said front wall (9c) of said screen (9) has, in its lower part, a bent edge (13b) equipped with a gasket (15b), for instance made of rubber or similar material.

8. The protection device (1) as claimed in any of claims 1 to 5, wherein said front wall (9c) of said screen (9) has a grip in its upper part.

9. The protection device (1) as claimed in any of claims 1 to 8, wherein said frame (5) is made of a material with high thermal conductivity.

10. The protection device (1) as claimed in any of claims 1 to 9, further including a C-shaped safety clip (17) made of a resilient material and arranged to lock the base of said front wall (9c) of said screen (9) against said cooker top (14).

11. A hob (10) inserted in a cooker top (14) and including a plurality of rings (12), **characterised in that** it includes a protection device as claimed in any of claims 1 to 10.

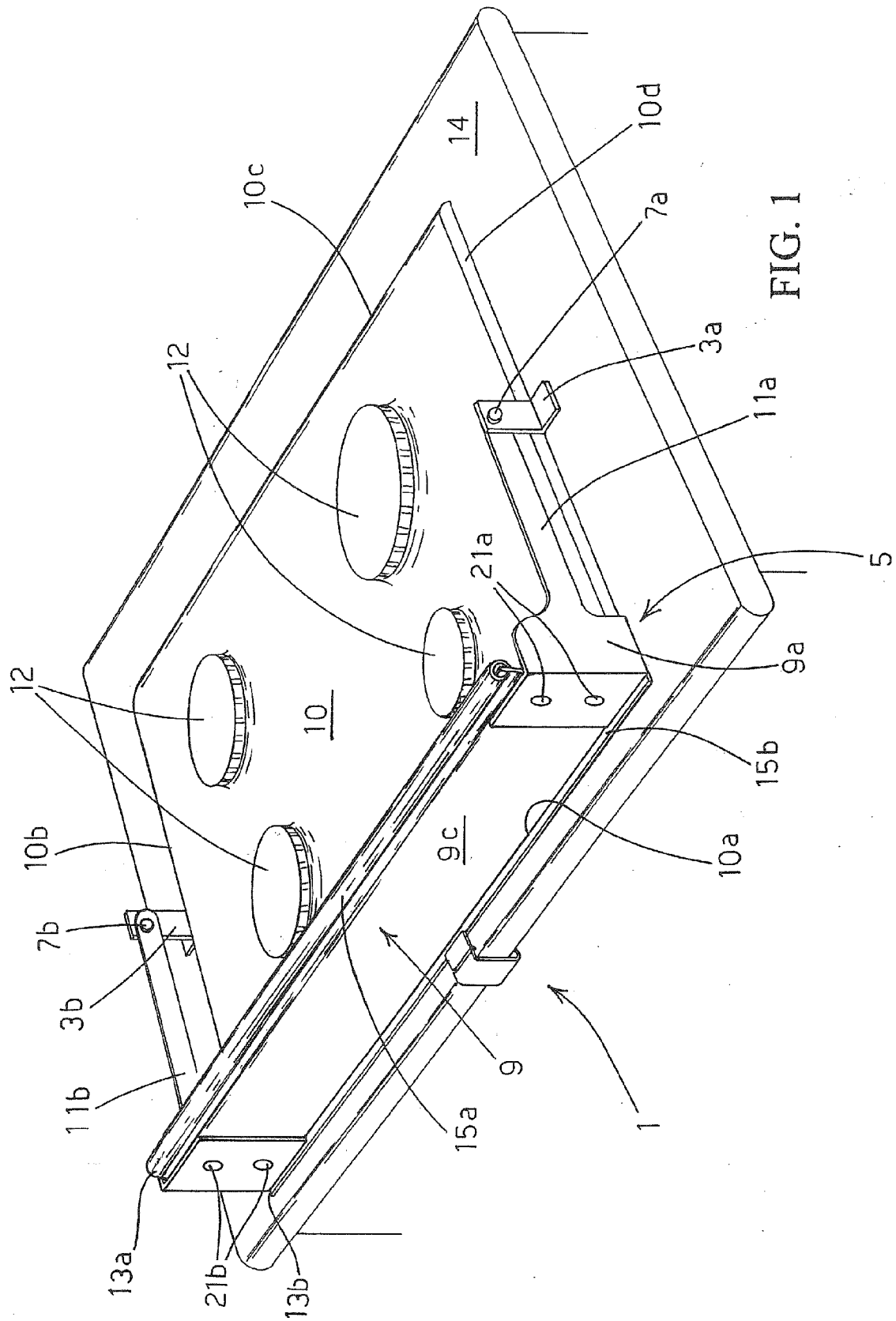
12. The hob (10) as claimed in claim 11, wherein said supporting brackets (3a, 3b) are secured to said top (14) in which said hob (10) is received in correspondence of a pair of opposite sides (10b, 10d) of said hob (10). 5
13. The hob (10) as claimed in claim 12, wherein said frame (5) can pivot about said pivots (7a, 7b) by an angle of substantially 180°, so that said screen (9) can be moved from a first position, in which said front wall (9c) rests onto said top (14) externally of said hob (10) and is substantially parallel to a first side (10a) of said hob (10) located between said pair of opposite sides (10b, 10d), to a second position in which said front wall (9c) rests on said cooker top (14) externally of said hob (10) and is substantially parallel to a second side (10c) of hob (10), located between said pair of opposite sides (10b, 10d) and opposite to said first side (10a). 10
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14. The hob (10) as claimed in any of claims 11 to 13, wherein said supporting brackets (3a, 3b) are secured to said top (14) substantially in correspondence of the middle points of said pair of opposite sides (10b, 10d), and the overall size of each side rod (11a, 11b) and the corresponding side member (9a, 9b) of said screen (9) slightly exceeds half the length of said opposite sides (10b, 10d) of said hob. 25
15. The hob (10) as claimed in claim 12, wherein the spacing between said side members (9a, 9b) of said screen is substantially the same as the spacing between said opposite sides (10b, 10d) of said hob (10), so that said side members lick said hob. 30
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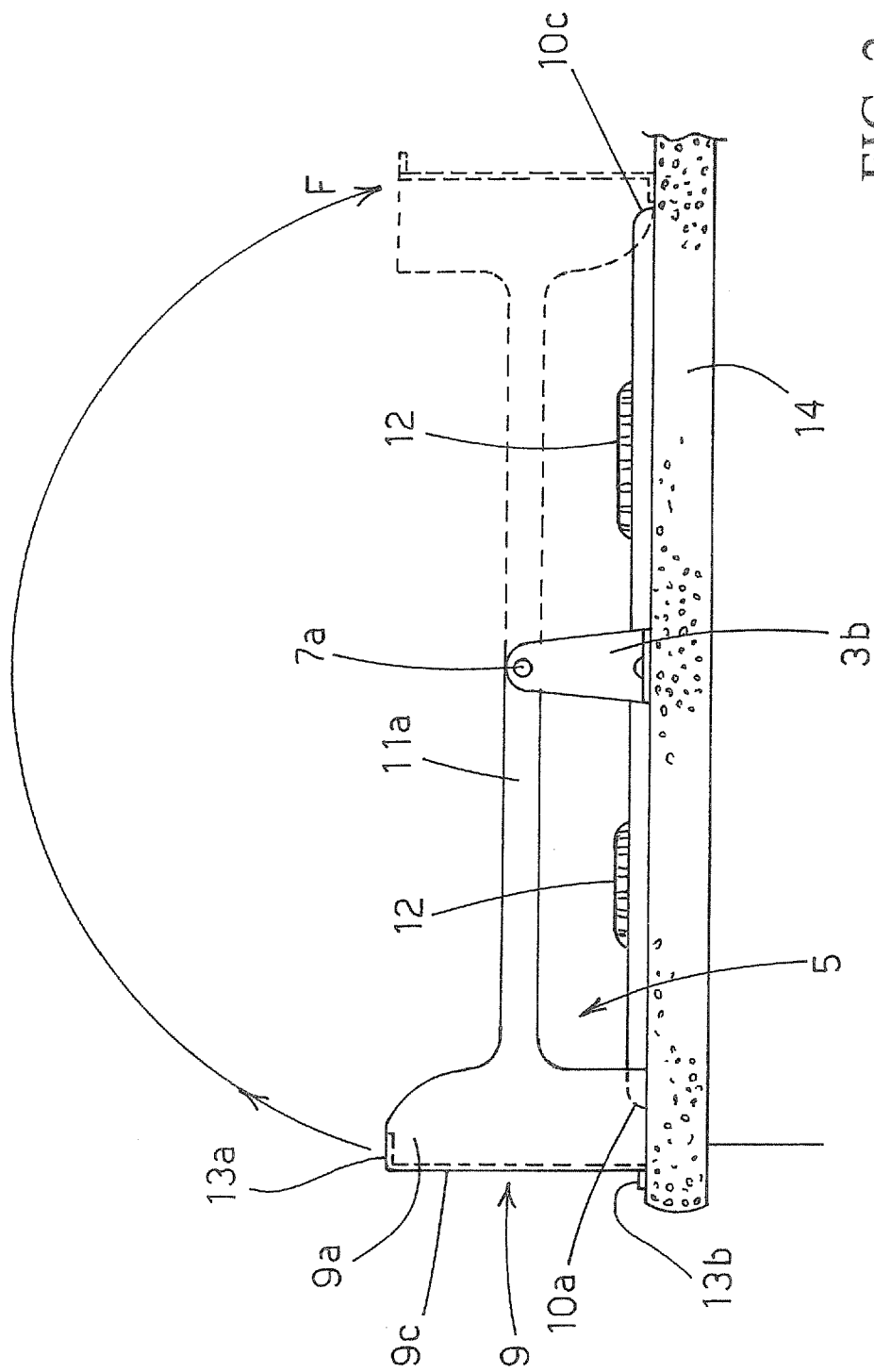
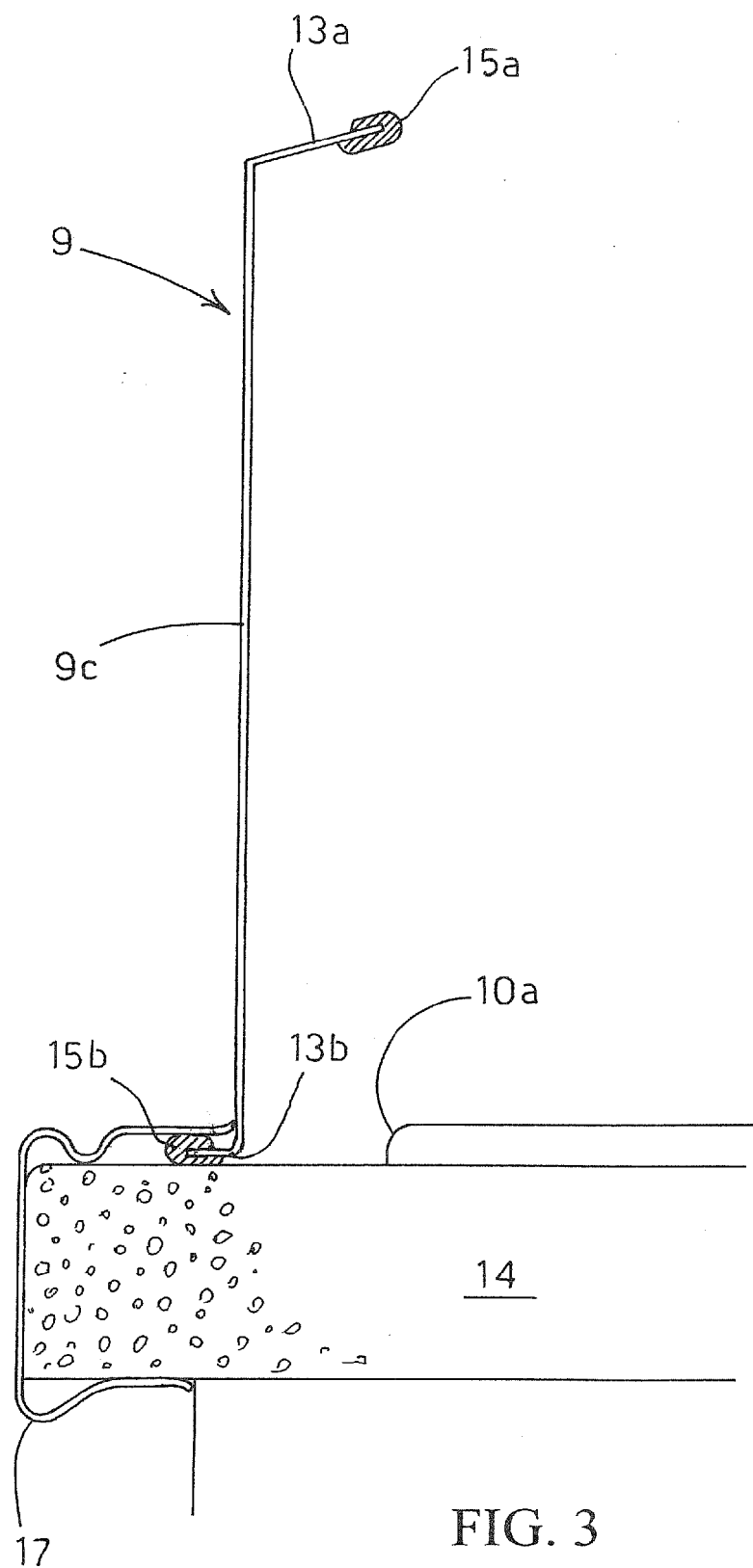


FIG. 2



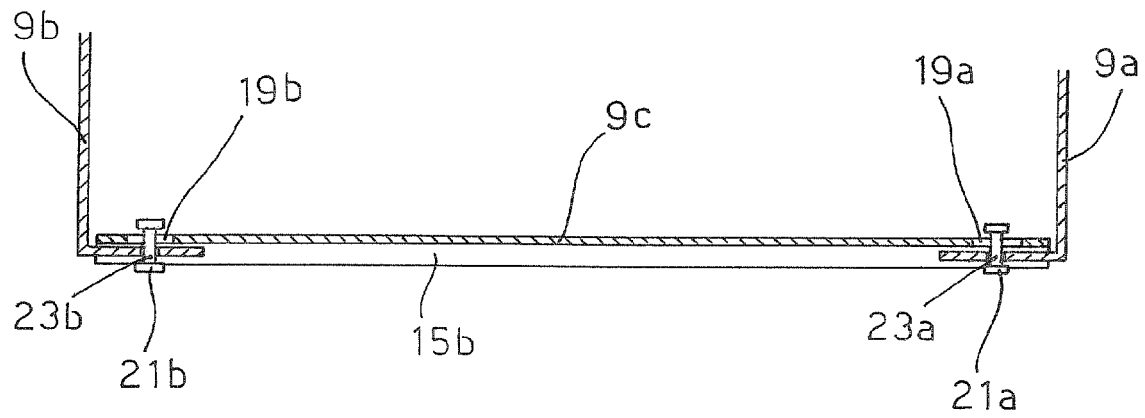


FIG. 4

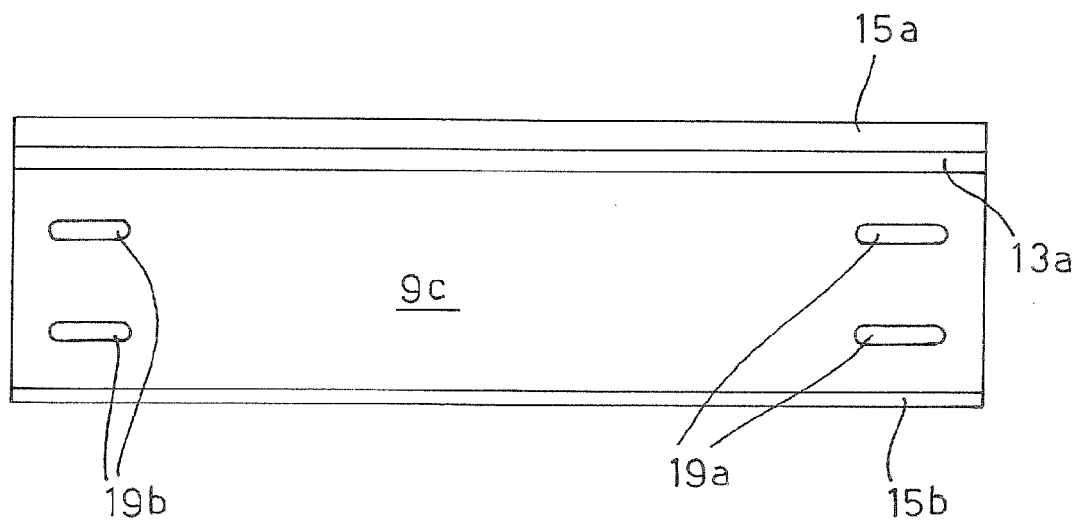


FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- AU 5935586 A [0003]
- FR 2610704 [0004]