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(54) **A cooling device with an ice machine**

(57) The present invention relates to a cooling device (10) comprising an ice machine (12) assembled inside the liner (11) of the cooling device (10); and in order to obtain an additional storage region (50a, 50b) on at least one side of said ice machine; a lower shelf (20) positioned under the ice machine (12); at least one fixation piece (40) which is connected to the inner lateral surface of the liner (11) or to the ice machine; and at least one cover (30) which is hinged to the fixation piece (40) so as to provide access to said storage region (50). Said cooling device is characterized in that, said cover (30) is sized so as to cover at least one storage region (50a, 50b) and the ice machine (12) from the front side thereof.

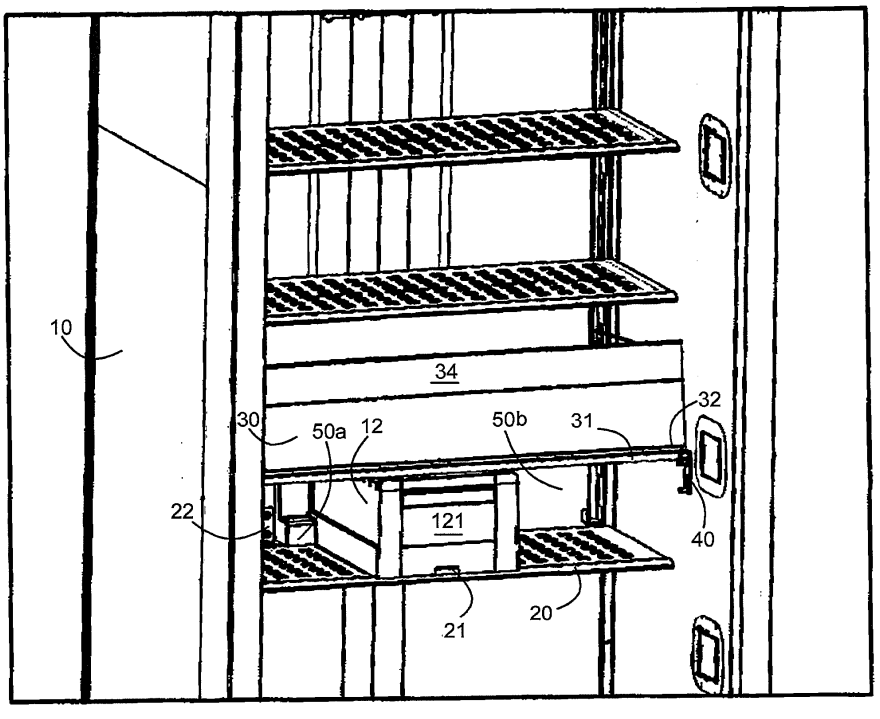

Fig. 2

EP 2 472 205 A2

Description

[0001] The present invention relates to a cooling device comprising an ice machine assembled inside the liner of the cooling device; and in order to obtain an additional storage region on at least one side of said ice machine; a shelf positioned under the ice machine; at least one fixation piece which is connected to the inner lateral surface of the liner or to the ice machine; and at least one cover which is hinged to the fixation piece so as to provide access to said storage region.

KNOWN STATE OF THE ART

[0002] There are pluralities of embodiments for providing functionality to the liner in cooling devices like refrigerators which are commercially available. The most widely used ones among these are the shelves placed inside the liner and ice machines which are assembled inside the liner. Said shelves are used for placing the foodstuff which are desired to be preserved and for increasing the area inside the liner. Ice machines produce ice for the users.

[0003] After the assembly of ice machines inside the cooling device is realized, there become dead regions around the ice machine. There are pluralities of applications and embodiments for utilizing the dead regions in the ice machines. For instance, in the patent KR20080014597, the ice machine is assembled to a corner region in the cooling device liner, and thereby the dead region is desired to be minimized. Moreover, in said patent application, a shelf system is disclosed which is foldable and which can be unfold by means of the connection members added onto the ice machine. However, in said system, since the place where the ice machine is assembled is fixed inside the liner and since the shelf is temporary, a different embodiment is required.

[0004] As a solution to the abovementioned problems, in the patent application 2010/08456, the applicant disclosed a storage region which is embodied so as to be adjacent to the ice machine inside the liner of the cooling device. Said storage region comprises a shelf which is positioned so as to be adjacent to the base surface of the ice machine; and a cover which is hinged onto the connection members positioned on the liner surface. By means of the cover, access to the storage region is provided.

[0005] However, there may be some structural revisions for facilitating the production step of this solution which brings pluralities of advantages for the users, and thus for providing production with a lower cost.

BRIEF DESCRIPTION OF THE INVENTION

[0006] The present invention relates to cooling devices wherein ice machine is assembled, in order to eliminate the drawbacks in said present systems and in order to bring new advantages to the related technical field.

[0007] The main object of the present invention is to provide a shelf embodiment which eliminates the dead region around the ice machine and which provides the utilization of said dead region, inside the liner where ice machine is adapted.

[0008] Under the light of said object, another object of the present invention is to facilitate the production of said shelf embodiment and to decrease the cost thereof and in addition, to improve the aesthetic appearance.

[0009] In order to realize the abovementioned objects and the objects to be obtained from the detailed description below, the present invention relates to a cooling device comprising an ice machine assembled inside the cooling device liner; and in order to obtain an additional storage region on at least one side of said ice machine; a lower shelf positioned under the ice machine; at least one fixation piece which is connected to the inner lateral surface of the liner or to the ice machine; and at least one cover which is hinged to the fixation piece so as to provide access to said storage region. Said cooling device is characterized in that, said cover is sized so as to cover at least one storage region and the ice machine from the front side thereof.

[0010] In a preferred embodiment of the present invention, in order to provide the connection of said cover to the fixation piece, pin housing is embodied on the cover and one upper pin is provided which is placed to said pin housing and which is embodied on the fixation piece.

[0011] In another preferred embodiment of the present invention, in order to delimit the closing amount of the cover, a stopper member is embodied on the fixation piece so as to be adjacent to the upper pin.

[0012] In another preferred embodiment of the present invention, in order to delimit the opening amount of the cover, a fixation member is embodied on the fixation piece so as to be adjacent to the upper pin.

[0013] In another preferred embodiment of the present invention, there is a lower pin which absorbs the shocks, which is embodied on the fixation piece and which prevents the noise of the cover when the cover is closed.

[0014] In another preferred embodiment of the present invention, there are two fixation pieces which are assembled to the inner lateral surface of the liner so as to face each other.

[0015] In another preferred embodiment of the present invention, the fixation pieces are positioned so as to be adjacent to the upper shelf existing on the upper part of the ice machine.

[0016] In another preferred embodiment of the present invention, the opening axis of the connection part defining the opening axis of the cover is parallel and adjacent to the front edge of the upper shelf existing on the upper part of the ice machine.

[0017] In another preferred embodiment of the present invention, the cover comprises an outer surface which is embodied so as to provide visual integrity with the cooling device liner.

[0018] In another preferred embodiment of the present

invention, there are two storage regions so as to be at both sides of the ice machine.

[0019] In another preferred embodiment of the present invention, the cover is sized so as to cover two storage regions and the ice machine.

[0020] In another preferred embodiment of the present invention, said cooling device is a refrigerator.

BRIEF DESCRIPTION OF THE FIGURES

[0021]

In Figure 1, the assembled view of the shelf under the ice machine is given.

In Figure 2, the view of the shelf cover in opened form is given.

In Figure 3, the detailed view of the cover connections is given.

In Figure 4, the detailed view when the cover is in closed position is given.

THE DETAILED DESCRIPTION OF THE INVENTION

[0022] In this detailed explanation, the subject matter improvement is explained with references to the annexed figures without forming any restrictive effect in order to make the subject more understandable. Accordingly, in the detailed description below, in the frame of the structural changes realized inside the liner (11) of the cooling device (10), the structural members and the operations thereof which form the storage region (50) providing the utilization of the dead region in a more effective manner which is formed around the ice machine (12) which is assembled inside the liner (11).

[0023] In Figure 1, the liner (11) of the cooling device (10) and the members embodied therein are illustrated. There is a connection surface (111) to which the ice machine (12), which is connected onto the rear surface of the liner (11), is connected. Moreover, there is an upper shelf (60) which is positioned inside the liner (11).

[0024] In Figure 2, an ice machine (12) which is connected to the connection surface (111) can be seen. There is a cover (121) on the front surface, which provides access to the members inside the ice machine (12). There is a lower shelf (20) inside the liner (11), which is positioned so as to be adjacent to the lower base of the ice machine (12). In order to provide the connection of said lower shelf (20) inside the liner (11), there is a fixation member (22) which is connected to the rear surface of the liner (11) and which is in connection with the lower shelf (20), and there is a support member (21) which is connected under the cover (121) on the ice machine (12). There is a fixation piece (40) which is connected onto two lateral surface of the liner (11) in a corresponding manner. Inside the liner (11), there is a cover (30) which is positioned so as to be able to completely cover the ice machine (12), and the lower shelf (20) which exists at both sides.

[0025] As can be seen in Figure 3, the connection between the fixation piece (40) and the cover (30) can be seen. Said fixation piece (40) is in rectangular form and there are screws (44) thereon which provide the connection to the surfaces. Moreover, on the surface of the fixation piece (40), an upper pin (41) and a lower pin (42) are embodied which are close to the short edges. There is a fixation member (45) and a stopper member (43) adjacent to said upper pin (41). There is a connection part (31) which is embodied so as to form the long edge of said cover (30). There is a pin housing (311) which is embodied on the center of said connection part (31). Moreover, there is a support bar (32) which is embodied so as to be adjacent to the connection part (31) and which is embodied on the cover's (30) inner surface (34) facing the liner (11).

[0026] The storage region (50) inside the liner (11) of the cooling device (10) is formed in the following manner. The ice machine (12) is connected onto the connection surface (111) and it is assembled inside the liner (11) of the cooling device (10). A lower shelf (20) is positioned so as to contact with the lower surface of the ice machine (12). In order for the lower shelf (20) to preserve the position thereof inside the liner (11), fixation members (22) are connected onto the rear surfaces of the liner (11). The support member (21) is connected onto the front surface thereof so as to be adjacent to the ice machine (12) cover (121). An upper shelf (60) is positioned so as to be at a higher position with respect to the position of the ice machine (12) inside the liner (11). In a compliant manner to the position of the upper shelf (60) placed inside the liner (11), fixation pieces (40) are placed onto the lateral surfaces of the liner (11) so as to be adjacent to the upper shelf (60). The cover (30) is connected to the upper pins (41) on the fixation piece (40) through the pin housings (311) embodied on the connection part (31). By means of this, the cover (30) is hinged inside the liner (11). The cover (30) realizes rotational movement on the axis defined by the fixation piece (40) by means of said connection part (31). Said rotation axis is parallel to the upper shelf (60) front edge (61). This rotational movement of the cover (30) provides the user to access the storage region (50) formed inside the liner (11). The stopper member (43), which is adjacent to the upper pin (41), delimits the closing movement of the cover (30). The cover (30) begins moving downwardly from the upper pin (41), after a certain time, the support bar (32) on the inner surface (34) of the cover (30) contacts with the stopper member (43) and thereby the cover (30) is retained. By means of this, the cover (30) is prevented from contacting with the other members existing inside the lower shelf (20) and from contacting with the ice machine (12). The fixation member (45), which is adjacent to the upper pin (41), delimits the movement of the cover (30) when the cover (30) is brought to the open position and said fixation

member (45) provides the cover (30) to remain fixed. When the cover (30) begins moving in the opening direction, after a certain movement, the cover's (30) outer surface (33) contacts with the fixation member (45). When the cover (30) is in open position, the reason for the delimiting of the movement thereof is to prevent the cover (30) from contacting with any material positioned on the upper shelf (60).

[0027] Under the light of the abovementioned structural details, the usage of the storage region (50) is as follows. The user moves the cover (30) by holding it. The cover (30) begins rotating on the axis which is formed by the fixation pieces (40). After a certain movement, the cover (30) contacts with the fixation member (45), and the cover (30) remains at a fixed position. When the cover (30) is in open position, it permits access to the lower shelf (20) existing inside the storage region (50). The user places the materials, which he/she desires to keep, onto the lower shelf (20) inside the storage region (50). After the placement process of the materials is finished, the user moves the cover (30) again. While the cover (30) continues to move downwardly in the vertical direction, the support bar (32) on the cover (30) contacts with the stopper member (43) on the fixation piece (40). The stopper member (43) provides the cover (30) to be retained and it helps the cover (30) prevent the access to the storage region (50).

[0028] Under the light of the structural information given above, the embodiment and usage of the storage region (50a) is described which is formed for the utilization of the dead region formed in one side of an ice machine (12). Said storage region (50a) is on the left side of the ice machine (12) and in the same manner, there is a second storage region (50b) on the right side of the ice machine (12). Since the items forming the second storage region (50b) and the operations of the items are the same as the items forming the first storage region (50a), the items forming the second storage region (50b) and the operations of the items and the usage of the second storage region (50b) will not be described here again.

[0029] The protection scope of the present invention is set forth in the annexed Claims and cannot be restricted to the illustrative disclosures given above, under the detailed description. It is because a person skilled in the relevant art can obviously produce similar embodiments under the light of the foregoing disclosures, without departing from the main principles of the present invention.

REFERENCE NUMBERS

[0030]

10	Cooling device
11	Liner
111	Connection Surface
12	Ice Machine
121	Cover
20	Lower Shelf
21	Support Member
22	Fixation Member
30	Cover
31	Connection Part
311	Pin Housing
32	Support Bar
321	Clip
33	Outer Surface
34	Inner Surface
40	Fixation Piece
41	Upper Pin
42	Lower Pin
43	Stopper Member
44	Screw
45	Fixation Member
50	Storage Region
60	Upper Shelf
61	Front Edge

Claims

1. A cooling device (10) comprising an ice machine (12) assembled inside the liner (11) of the cooling device (10); and in order to obtain an additional storage region (50a, 50b) on at least one side of said ice machine; a lower shelf (20) positioned under the ice machine (12); at least one fixation piece (40) which is connected to the inner lateral surface of the liner (11); and at least one cover (30) which is hinged to the fixation piece (40) so as to provide access to said storage region (50), **characterized in that**, said cover (30) is sized so as to cover at least one storage region (50a, 50b) and the ice machine (12) from the front side thereof.

2. A cooling device according to claim 1, wherein, in order to provide the connection of said cover (30) to the fixation piece (40), a pin housing (311) is embodied on the cover (30); and one upper pin (42) is provided which is placed to said pin housing (311) and which is embodied on the fixation piece (40).

3. A cooling device according to claim 1 or 2, wherein, in order to delimit the closing amount of the cover (30), a stopper member (43) is embodied on the fixation piece (40) so as to be adjacent to the upper pin (41).

4. A cooling device according to any one of the preceding claims, wherein, in order to delimit the opening amount of the cover (30), a fixation member (45) is embodied on the fixation piece (40) so as to be adjacent to the upper pin (41).

5. A cooling device according to any one of the preceding claims, wherein a lower pin (42) is provided which absorbs the shocks, which is embodied on the fixation piece (40) and which prevents the noise of the cover (30) when the cover is closed (30).

6. A cooling device according to any one of the preceding claims, wherein two fixation pieces (40) are provided which are assembled to the inner lateral surface of the liner (11) so as to face each other.

7. A cooling device according to claim 6, wherein the fixation pieces (40) are positioned so as to be adjacent to the upper shelf (60) existing on the upper part of the ice machine (12).

8. A cooling device according to any one of the preceding claims, wherein the opening axis of the connection part (31) defining the opening axis of the cover (30) is parallel and adjacent to the front edge (61) of the upper shelf (60) existing on the upper part of the ice machine (12).

9. A cooling device according to claim 1, wherein the cover (30) comprises an outer surface (33) which is embodied so as to provide visual integrity with the liner (11) of the cooling device (10).

10. A cooling device according to any one of the preceding claims, wherein two storage regions (50a, 50b) are provided so as to be at both sides of the ice machine.

11. A cooling device according to claim 10, wherein the cover (30) is sized so as to cover two storage regions (50a, 50b) and the ice machine (12).

12. A cooling device according to any one of the preceding claims, wherein said cooling device (10) is a refrigerator.

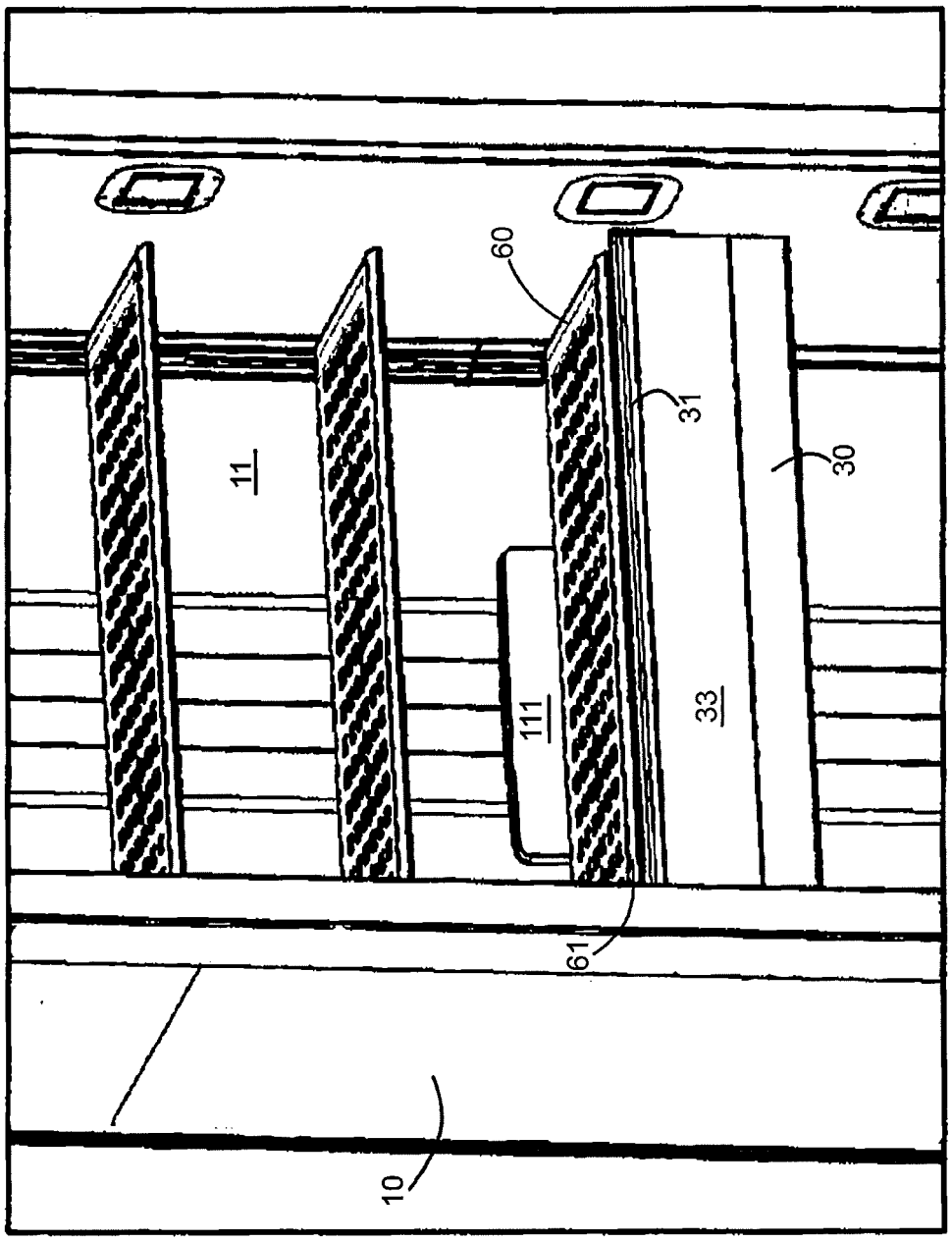

Fig. 1

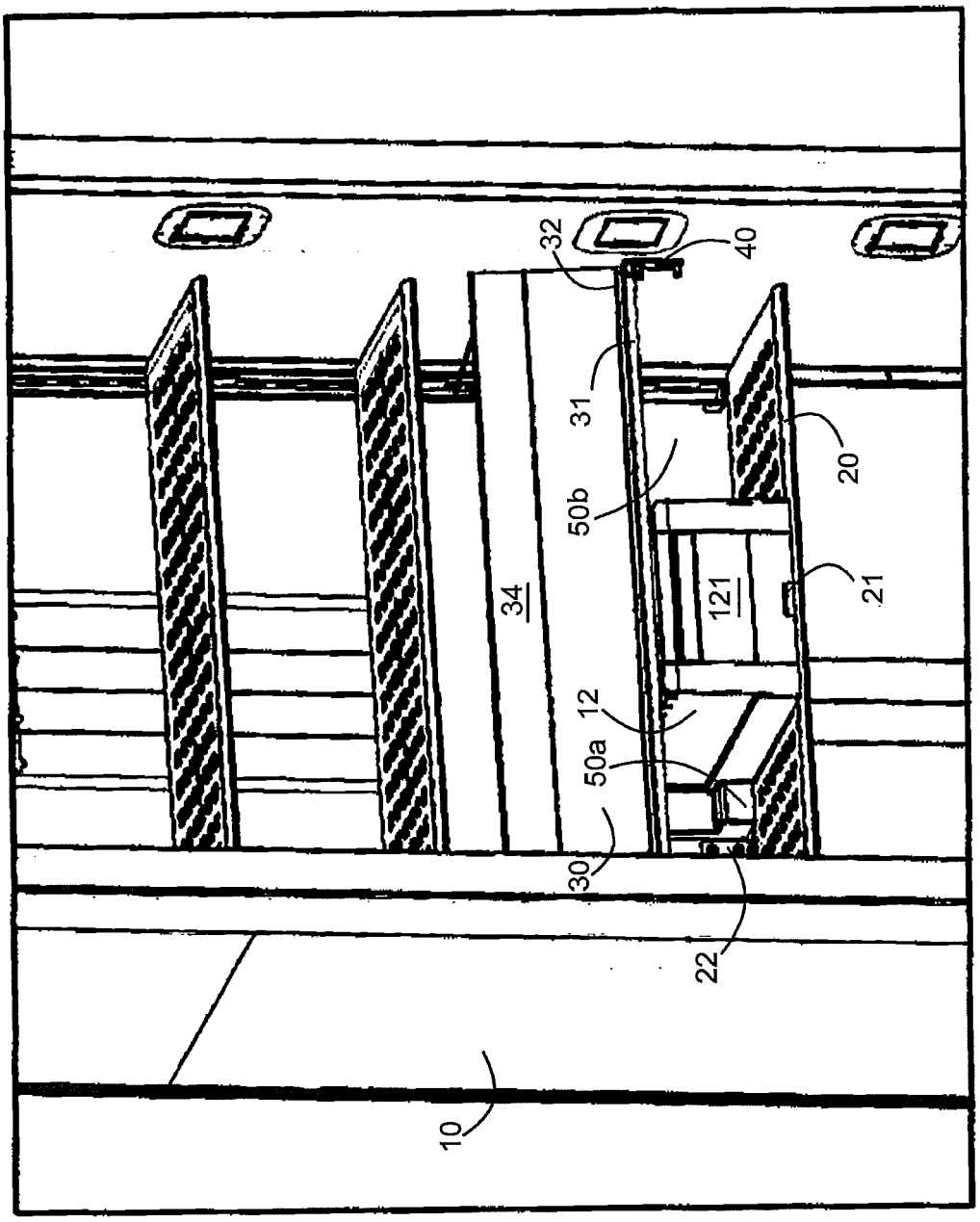

Fig. 2

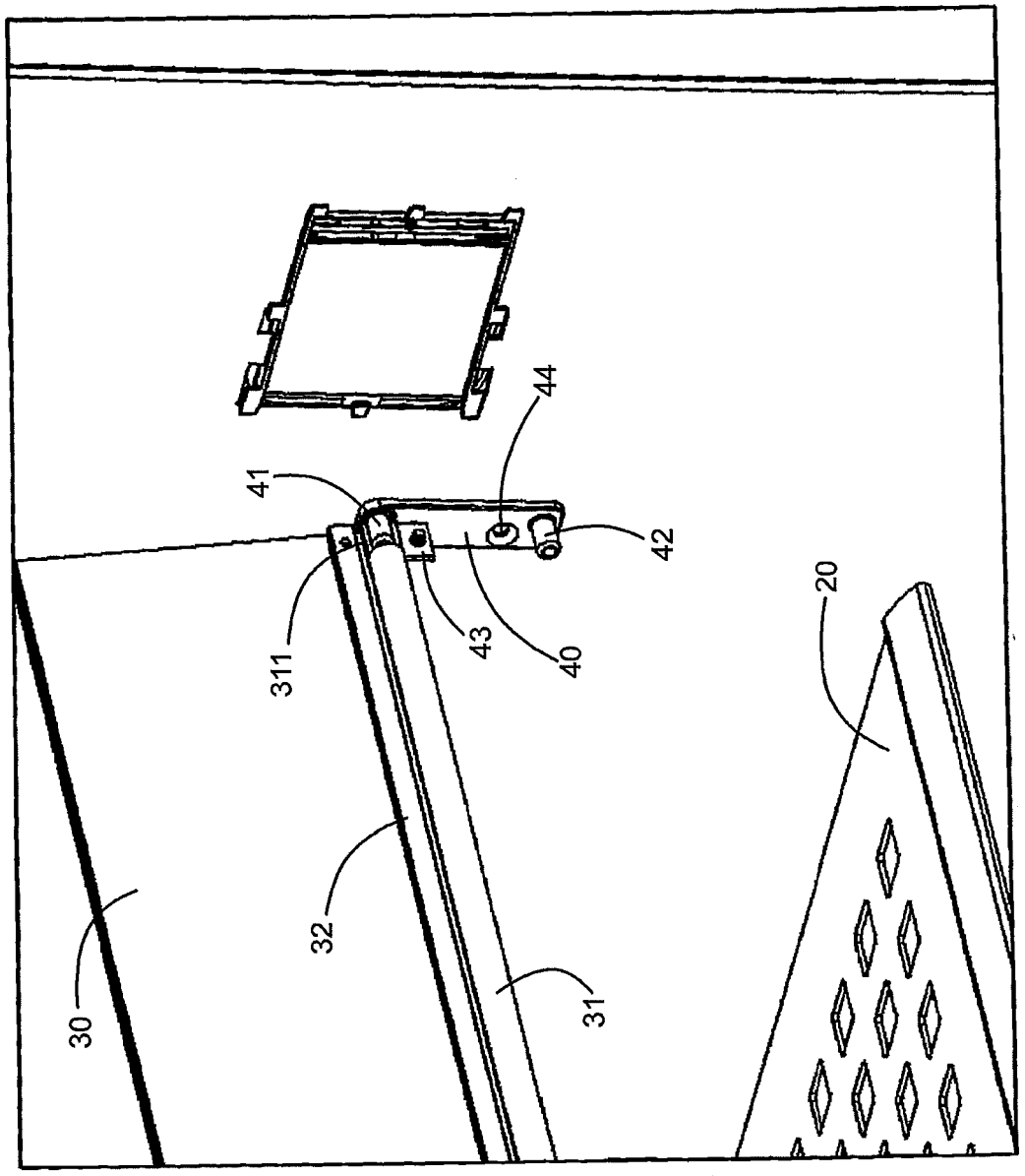

Fig. 3

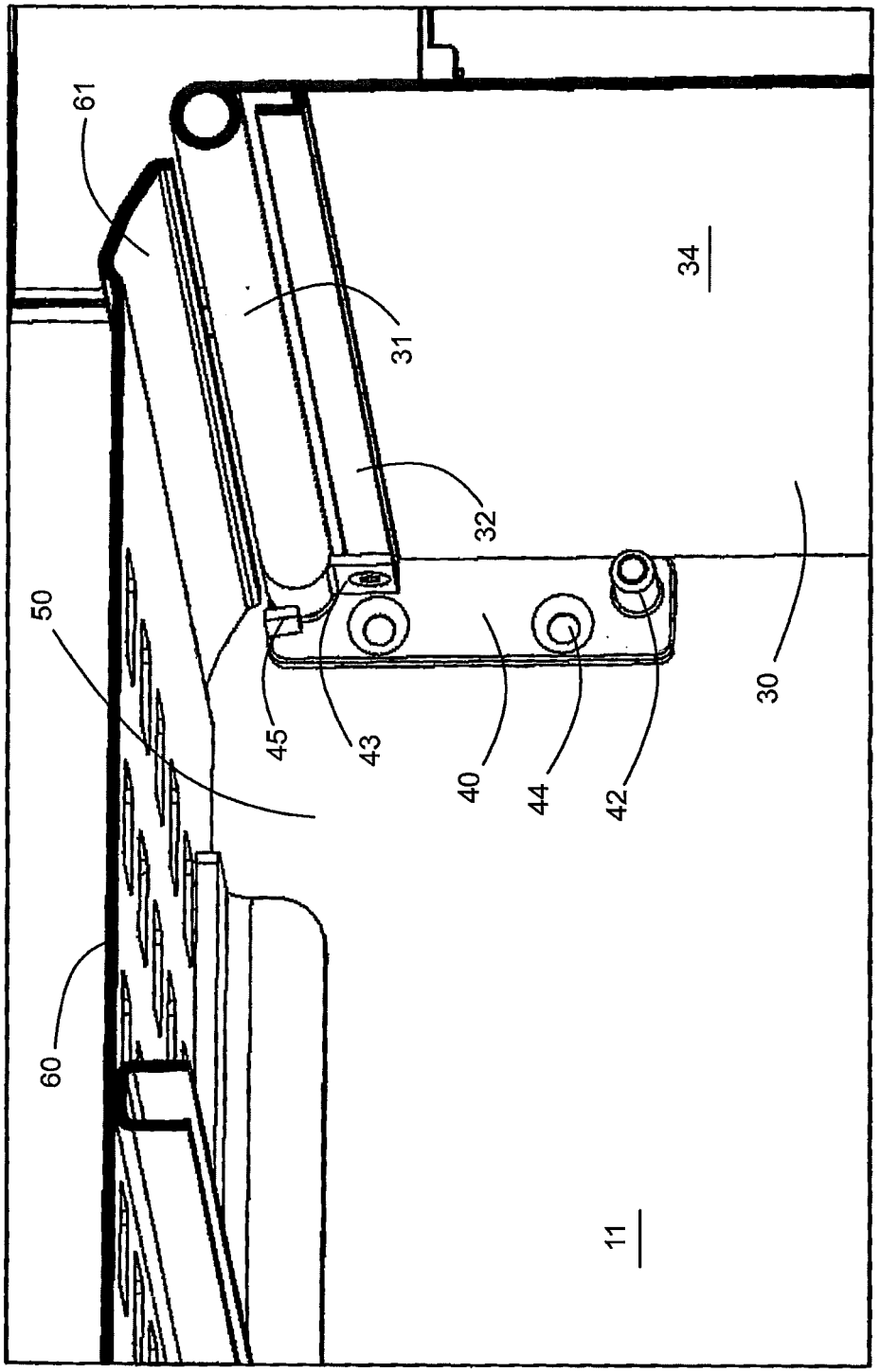

Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 20080014597 **[0003]**