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(54) **A cooling device having an illuminated ice / water dispenser**

(57) The invention is a cooling device having a heat insulated inner liner; a door hinged to the inner liner in a closable manner; a dispenser (1) having a housing part (10) with an illumination member (11) and integrated to the door. It comprises a semi-transparent cover (12) between the housing (10) and the illumination member (11) having a position configured such that illuminating element (11) illuminates whole inner area of the housing (10) equally.

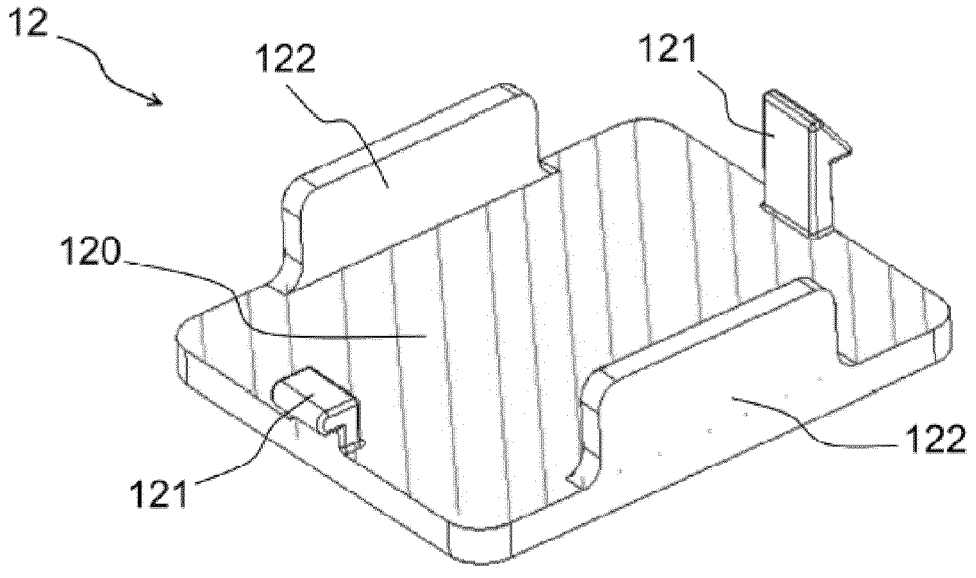

Figure 1a

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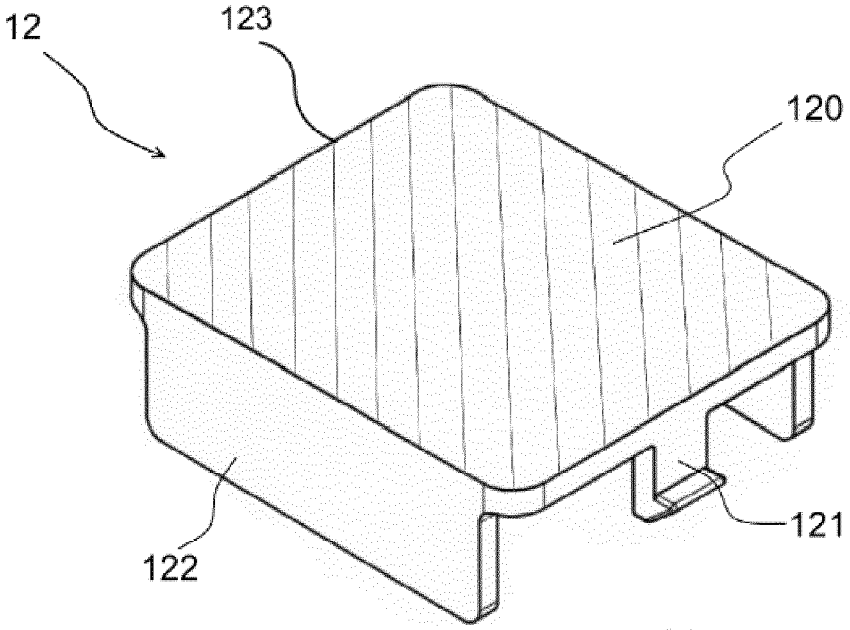

Figure 1b

Description

TECHNICAL FIELD

[0001] The present invention relates to cooling devices having water dispensers generally integrated to the door of cooling device and providing access to water, beverage or ice without opening the door.

[0002] The present invention particularly relates to cooling devices having water dispenser and having illumination members providing illumination of said water dispensers.

PRIOR ART

[0003] On the front part of the doors of some types of cooling devices, there are dispensers accessed for taking water, ice and various beverages without opening the door of the cooling device. In dispensers, the compartment wherein water, ice or beverage is stored is positioned on the inner part of the cooling device door. The housing part from which the beverage is taken by means of a beverage tap is mounted to the outer part of the door or to the recess part formed by means of the cut-out method. Said door outer part is the outer part which can be accessed without opening the cooling device door.

[0004] By placing a glass to said housing part, the beverage can be filled from this part by tapping the dispenser tap. The housing parts of some dispensers are illuminated by an illumination member. The illumination member is generally positioned on the upper region of the housing part and it is provided to apply light downwardly and provided to illuminate the inner walls of the housing. In said housing part, since a tap is positioned in the upper part or in the rear part, the illumination member(s) is/are positioned in the upper left or right sections in the housing part. In this housing volume, when the light is turned on, a region is illuminated in a clear manner, and in some other region, apparent shadow(s) is/are formed. In this case, shadow regions that are not visible are formed in the housing and the water dispenser is not aesthetic in terms of the illumination of this part. Light distribution is not equal on the inner walls (on the upper wall, base and lateral walls) of the housing part.

[0005] In the patent application having publication number of WO2008028780, a cooling device having ice or water dispenser devices is disclosed. Said invention is a cooling device comprising a compartment with a dispenser device, utilized for liquid cold materials which can be poured, secured to a housing in the outer part. Said housing is illuminated by at least one LED.

[0006] In the patent application having publication number of KR20110035671, a cooling device is disclosed and a cooling device with illumination is disclosed. An optical source, a LED, positioned on the guide member and emitting light widely dispersed at the guide member is defined. This allows the user to control the discharge degree of the water and of the ice and to have a sophisticated aesthetical sense.

BRIEF DESCRIPTION OF THE INVENTION

[0007] In order to eliminate the abovementioned problems and to bring new advantages to the related technical field, the present invention relates to a cover providing illumination without forming a shadow region in the dispenser housing, where water or ice outlets are provided, of the water dispensers of the cooling device groups.

[0008] The object of the present invention is to improve light distribution in dispensers integrated to the cooling device.

[0009] In order to realize all of the abovementioned objects and the objects which are to be deducted from the detailed description below, the present invention is a cooling device having a heat insulated inner liner; a door hinged to the inner liner in a closable manner; a dispenser having a housing with an illumination member and integrated to the door characterized by comprising a semitransparent cover between the housing and the illumination member having a position configured such that illuminating element illuminates whole inner area of the housing equally. Thus, shadow formation in the inner part of the housing is prevented.

[0010] In a preferred embodiment of the present invention, the cover is made of a polycarbonate material. Since one of the physical properties of polycarbonate material is semitransparency, it facilitates equal light distribution.

[0011] In another preferred embodiment of the present invention, the inner wall of the housing and the outer surface of the cover are aligned to each other. By means of this, an integrated form is obtained.

[0012] In another preferred embodiment of the present invention, an opening is provided on the housing in which the cover is attached. Thus, when required the cover is removed and the light source can be accessed.

[0013] In another preferred embodiment of the present invention, a locking member is formed on the cover in such a manner that the cover is being secured into the opening. Thus, the cover is easily secured to the opening and it is easily removed for change in case of a breakage.

[0014] In another preferred embodiment of the present invention, the locking member is a tab mounting the cover to the housing. In this case, the cover can be fixed to and removed through the opening by means of bending.

[0015] In another preferred embodiment of the present invention, the cover comprises two lateral projections formed on two edges opposing each other and inserted into the opening. Thus, the light, applied by the illumination source, is prevented from leaking through the housing gaps in an undesired manner.

[0016] In another preferred embodiment of the present invention, the illumination member comprises a LED element. LED usage provides power saving.

[0017] In another preferred embodiment of the present invention, the cooling device comprises a LED holder providing to integration of the illumination member to a

recess part in the housing. Thus, the LED element is provided to be at the desired position on the cover.

BRIEF DESCRIPTION OF THE FIGURES

[0018]

In Figure 1a, the top perspective view of the subject matter illumination member cover is given.
In Figure 1b, the bottom perspective view of the subject matter illumination member cover is given.
In Figure 2, the frontal perspective view of the water dispenser housing is given.
In Figure 3, the perspective view illustrating that the illumination member cover is secured to the opening part given in Figure 2 is given.
In Figure 4, the lateral perspective and cross sectional view of the water dispenser housing with the illumination member cover secured to the opening.

[0019] In Figure 5, the frontal perspective view illustrating the shadow region formation in the water dispenser housing in the prior art is given, where the illumination member utilized without any cover is mounted.

THE DETAILED DESCRIPTION OF THE INVENTION

[0020] In this detailed description, the subject matter improvement is explained with references to examples without forming any restrictive effect in order to make the subject more understandable. Accordingly, the present invention particularly relates to a cover (12) providing illumination of the housing (10) of the dispenser (1), where the water or ice outlet is provided, of the water dispensers (1) utilized in an integrated manner to the cooling device groups, without forming any shadow region (105).

[0021] The dispenser (1) housing (10) is a compartment in rectangular prism form. In this part, water or ice exiting from a tap or a channel belonging to a water dispenser (1) is taken. Therefore, it has a base (103) forming a protrusion such that a glass can be put to the housing (10). At the same time, there is the upper wall (101) and there are the lateral walls (102).

[0022] In Figure 1 a, the top perspective view of the subject matter illumination member (11) cover (12) is given. In Figure 1b, the bottom perspective view of the subject matter cover (12) is given.

[0023] In Figure 2, the view of the opening (100), whereto the cover (12) is fixed, and the view of the tap opening (104) provided on the upper wall (101), where the tap or the outlet channel is provided, is given.

[0024] In Figure 3, the view of the opening (100) of the housing (10) and the view of the subject matter cover (12) to be secured to said opening (100) is given.

[0025] In Figure 4, the lateral perspective and sectional view of the water dispenser (1) housing (10) where the cover (12) is in secured form is given.

[0026] In Figure 5, the frontal perspective view illustrating the shadow region (105) formation in the water dispenser (1) housing (10) in the prior art is given. In the figure, the illumination member (11) utilized without any cover (12) distributing light in an equal manner is mounted. In said prior art, the light, distributed from the illumination member (11) disposed to the opening (100), forms the shadow regions (105) in the housing (10) as given in the figure. In the prior art, halogen lamps are utilized as the illumination members (11). As can be seen in the given figure, since the tap opening (104) is formed in the middle of the upper wall (101) of the housing (10), the left or right sections for the illumination member (11) are empty. Therefore, the illumination member (11) is connected from one side of the upper wall (101). Thus, inside the housing (10), the clearly illuminated regions and the shadow regions (105) are seen.

[0027] In more details, the operation of the present invention is as follows. In the present invention, LED is utilized as illumination member (11). At least one LED lamp is disposed to a LED holder (110) disposed inside the upper wall (101) of the housing (10). Said LED holder (110) is positioned in the recess part (13) provided on the upper region of the opening (100) formed on the upper wall (101). Afterwards, the illumination member (11) cover (12) is engaged and secured to the opening (100) from the bottom side by means of the own tabs (121) thereof. The subject matter cover (12) secured in front of the LED and to the opening (100) provided on the upper wall (101) is made of polycarbonate material. There is a light distribution surface (120) having a surface structure providing equal distribution of light to every region. The inner wall (106) forming the whole inner surface of the housing (10) and the external surface (123) of the cover (12) are in the same alignment.

[0028] In a more particular definition, the light distribution surface (120) of the subject matter cover (12) is a surface having a form having linear depths intersecting each other so as to form a square shape. These square surfaces distribute light in an equal manner and do not permit formation of any shadow region (105).

[0029] In an alternative embodiment of the present invention, the subject matter illumination member (11) cover (12) can be made of opal glass or similar light distributing materials.

[0030] In an alternative embodiment of the present invention, the subject matter cover (12) of the illumination member (11) can be secured to an opening (100) formed on the right or in different places of the upper wall (101) instead of the left side of the upper wall (101) of the housing (10).

[0031] In an alternative embodiment of the present invention, the subject matter illumination member (11) cover (12) may be plural inside the housing (10) and may be in various colors.

REFERENCE NUMBERS

[0032]

1	Dispenser
10	Housing
100	Opening
101	Upper wall
102	Lateral wall
103	Base
104	Tap opening
105	Shadow region
106	Inner wall
11	Illumination member
110	LED holder
12	Cover
120	Light distributing surface
121	Tab
122	Lateral extension
123	Outer surface
13	Recess part

Claims

1. A cooling device having a heat insulated inner liner; a door hinged to the inner liner in a closable manner; a dispenser (1) having a housing (10) with an illumination member (11) and integrated to the door **characterized by** comprising a semi-transparent cover (12) between the housing (10) and the illumination member (11) having a position configured such that illuminating element (11) illuminates whole inner area of the housing (10) equally.

2. A cooling device according to claim 1, wherein the cover (11) is made of a polycarbonate material.

3. A cooling device according to anyone of preceding claims, wherein the inner wall (106) of the housing (10) and the outer surface (123) of the cover (12) are aligned to each other.

4. A cooling device according to anyone of the preceding claims, wherein an opening (100) is provided on the housing (10) in which the cover (12) is attached.

5. A cooling device according to claim 4, wherein a locking member is formed on the cover (12) in such a manner that the cover (12) is being secured into the opening (100).

6. A cooling device according to claim 5, wherein the locking member is a tab (121) mounting the cover (12) to the housing (10).

7. A cooling device according to claim 1 and 2, wherein the cover (12) comprises two lateral projections (122) formed on two edges opposing each other and inserted into the opening (100).

8. A cooling device according to claim 1, wherein the illumination member (11) comprises a LED element.

9. A cooling device according to claim 8, wherein the cooling device comprises a LED holder (110) providing the integration of the illumination member (11) to a recess part (13) in the housing (10).

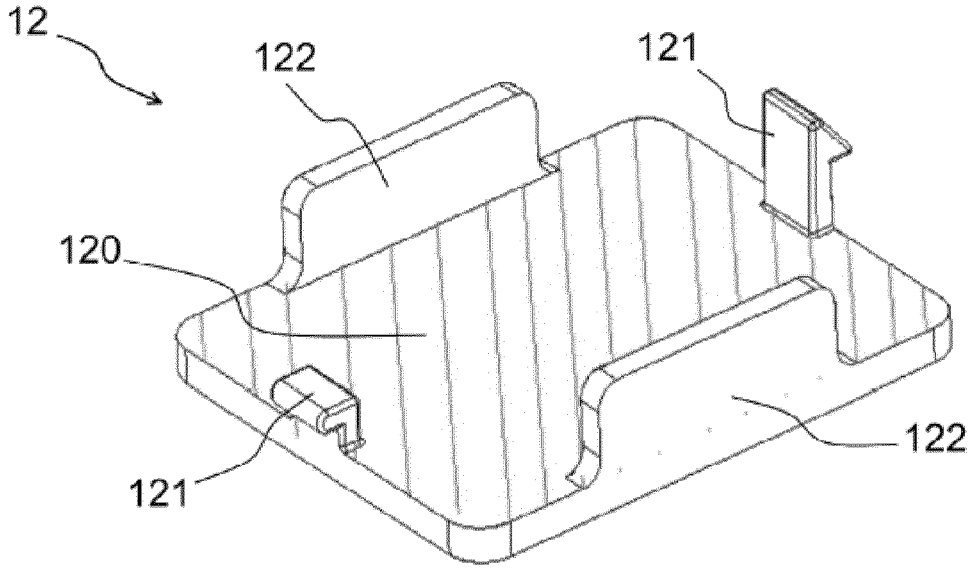

Figure 1a

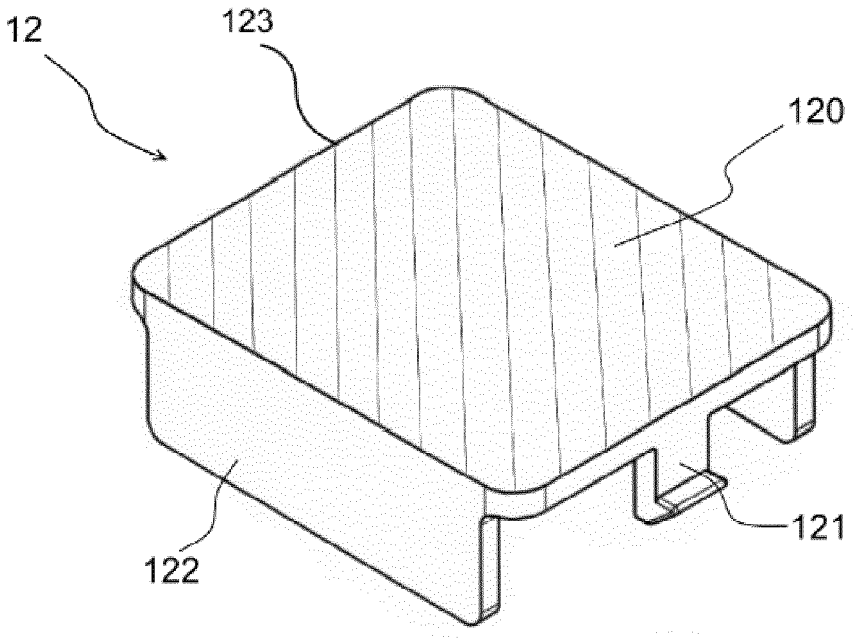

Figure 1b

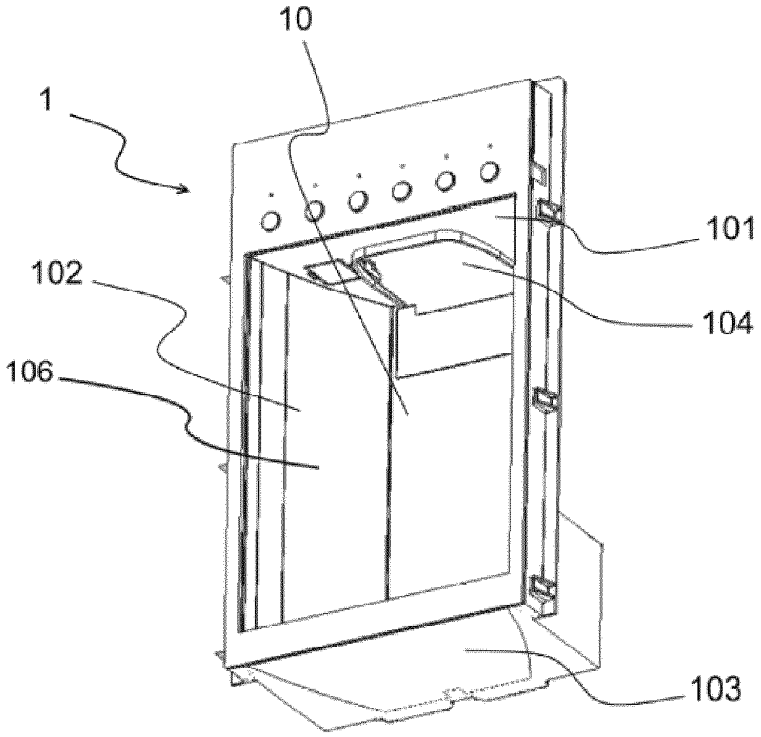

Figure 2

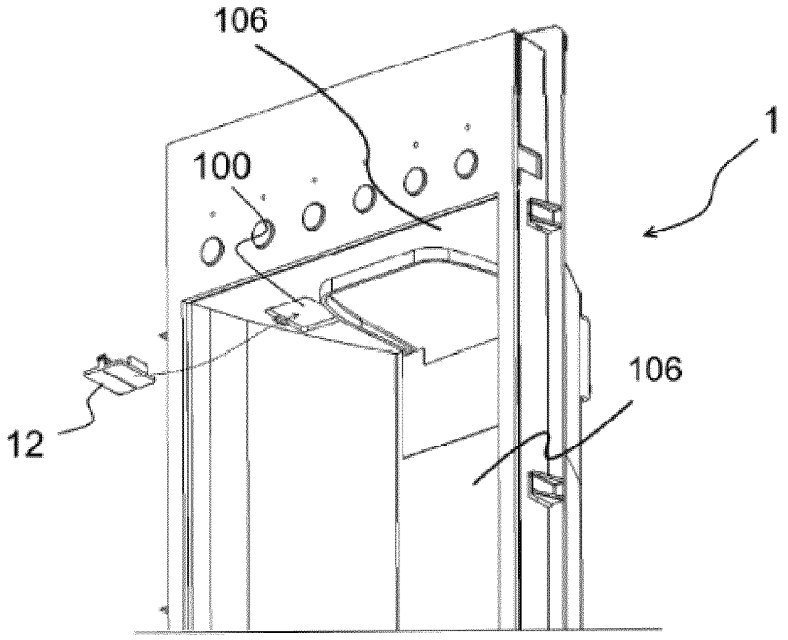

Figure 3

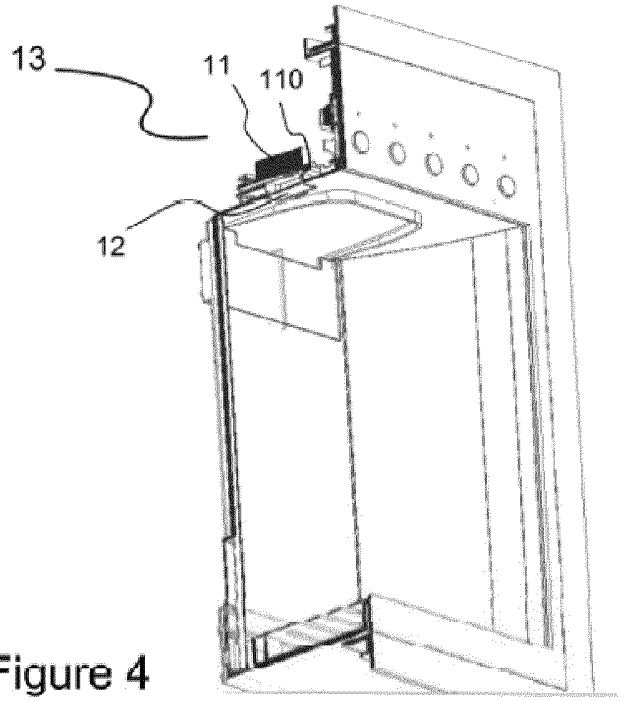

Figure 4

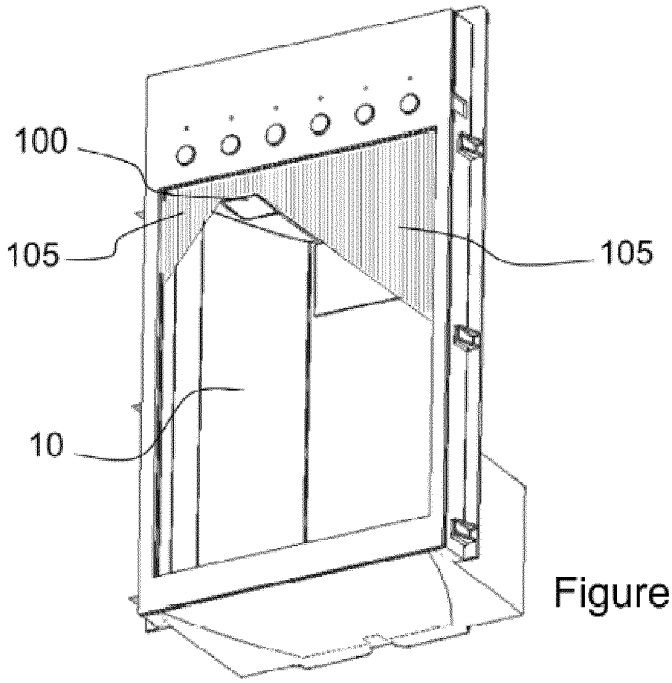

Figure 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2008028780 A **[0005]**
- KR 20110035671 **[0006]**