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(54) Title: A COOLING DEVICE

(57) Abstract: The present invention relates to a cooling device (1) that comprises a body (2) wherein items to be cooled are stored, a door (9) allowing access into the body (2) from the outside, and one or more shelf (3) disposed to the body (2) or the door (9) at various heights and a holder (4) having a base (6) whereon objects are placed and a hanger (5) secured under the shelf (3) from one end.

Description

A COOLING DEVICE

[0001] The present invention relates to a cooling device comprising a holder that makes storing of items easier.

[0002] Various solutions have been devised for storing items such as bottles, eggs etc. in the interior volume of the cooling device without occupying much space. These solutions are generally holders of various configurations positioned above or under the shelves that divide the inner space of the cooling device into sections.

[0003] In the state of the art French Patent Application No FR2778325, a bottle holder is explained having arms that can be folded over itself.

[0004] In the state of the art Great Britain Patent Application No GB758080, a bottle holder is explained that is secured to a raised part formed on the side wall of the body and when not in use, folded against the side wall of the body by rotating around the point of attachment.

[0005] A multitude of holders that are folded on the side wall are explained in the implementation known in conventional art. Various deformations are formed on the side walls of the body for securing the holders on the cooling device body. The deformations such as holes etc. formed on the side walls for mounting the holder to the body give rise to various sealing problems resulting in the weakening of the insulation. Moreover, the door shelves disposed on a narrow sized structure particularly such as the door are preferred to be detachable in order to be used more effectively. Even though the holders suspended under the shelf are detachable, not causing insulation problems in the cooling device body, the portions thereof that extend into the cooling volume occupy a space when not in use.

[0006] The aim of the present invention is the realization of a cooling device comprising a holder for storing and supporting objects, which occupies less space when not in use.

[0007] The cooling device realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a holder that changes from the open position of supporting objects wherein the hanger and the base are perpendicular with respect to

each other, to the closed position by pivoting around the point whereto the hanger is attached to the shelf, and is folded under the shelf together with the base while the base is folded over the hanger.

[0008] Thus the preferably "L" shaped holder, with both parts pivotably connected to each other can be folded under the shelf wherefrom it is suspended.

[0009] The holder is folded under the shelf by the base folding over the hanger, occupying a minimal space when not in use and can be stored without requiring to be taken out of the cooling device. Thus, the holder can be stored under the shelf by folding the elements forming the holder one over the other and then folding under the shelf, occupying less space particularly in a narrow area like the door shelf.

[0010] In another embodiment of the present invention, the holder comprises more than one pin providing the hanger to be rotatably secured to the base and the shelf pivoting from the linkage points.

[0011] In another embodiment of the present invention, springs are provided on the pins. The springs maintain the holder to change to the open position softly. Thus, the holder in the folded position under the shelf can be changed from the closed position to the open position softly by means of the springs when released from the locking mechanism by the user.

[0012] In another embodiment of the present invention, the cooling device comprises a guardrail on the edge of the base for preventing movements, rolling off of the objects placed on the holder in the open position. The guardrail prevents particularly bottle like objects placed on the base from rolling and falling off the base.

[0013] By means of the present invention, the holder can be folded under the shelf and stored in that position when not in use depending on the choice of the user. Thus, the interior volume of the cooling device is enabled to be used effectively.

[0014] A cooling device realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

[0015] Figure 1 – is the perspective view of a cooling device when the holder is in the open position.

[0016] Figure 2 – is the perspective view of a cooling device when the holder is in

the closed position.

[0017] Figure 3 – is the sideways view of the holder when in the open position.

[0018] Figure 4 – is the sideways view of the holder while changing to the closed position.

[0019] Figure 5 – is the sideways view of the holder when in the closed position.

[0020] The elements illustrated in the figures are numbered as follows:

1. Cooling device
2. Body
3. Shelf
4. Holder
5. Hanger
6. Base
7. Locking mechanism
8. Guardrail
9. Door
10. Pin
11. Spring
12. Stopper

[0021] The cooling device (1) comprises a body (2) wherein items to be cooled are stored, a door (9) allowing access into the body (2) from the outside, and at least one shelf (3) disposed to the body (2) or the door (9).

[0022] The cooling device (1) furthermore comprises a holder (4), preferably "L" shaped, having a hanger (5) secured under the shelf (3) pivotably, and a base (6) whereon objects are placed, secured pivotably to the other end of the hanger (5),

- changing from the open position wherein the hanger (5) and the base (6) are virtually perpendicular with respect to each other and whereon items are placed,
- to the closed position, with the base (6) and the hanger (5) rotating around the point pivoted to one another while the base (6) is folded over the hanger (5),
- and the hanger (5) folding under the shelf (3) together with the base (6) by rotating around the point attached to the shelf (3) (Figure 3, Figure 4,

and Figure 5).

[0023] In this embodiment of the present invention, the hanger (5) has linkage points (S1) at both ends wherefrom it is attached to the base (6) and the shelf (3). The base (6) and the hanger (5) are fastened to each other such that the linkage points (S1) overlap. Thus, the base (6) is fastened to the hanger (5) pivotably and the hanger (5) is fastened to the shelf (3) pivotably.

[0024] The holder (4) comprises a stopper (12) maintaining the hanger (5) and the base (6) to remain perpendicular to each other when in the open position and preventing the base (6) from rotating around the point of attachment to the hanger (5) with the weight of the supported items. When the holder (4) is in the open position, the base (6) leans against the stopper (12) on the hanger (5) and stays in a position perpendicular to the hanger (5).

[0025] When the holder (4) is in the open position (I) for loading items therein, while the hanger (5) extends downwards from the shelf (3), parallel to the door (9) or the body (2) wall, the base (6) extends towards the cooling volume, perpendicular to the hanger (5), forming a surface whereon items can be placed. In the position wherein the base (6) leans against the stopper (12), there is an approximately 90º angle between the hanger (5) and the base (6). The base (6) safely carries or stores the item by supporting from beneath (Figure 1).

[0026] In the cooling device (1) when the holder (4) is desired to be changed to the closed position (II), wherein the storage process is not performed, for gaining space between the shelves (3), force is applied on the base (6) and the base (6) rotates approximately 90º around the linkage point (S1) wherefrom it is connected to the hanger (5). This rotational motion continues until the base (6) is folded over the hanger (5) and ends when the base (6) bears against the hanger (5). As a result of this folding operation, the hanger (5) is also rotated approximately 90º around the linkage point (S1) wherefrom it is connected to the shelf (3) together with the base (6) folding over thereto. This movement continues until the hanger (5) with the base (6) thereon abuts under the shelf (3). When the

hanger (5) abuts under the shelf (3), the holder (4) is folded under the shelf (3) (Figure 2). In this embodiment, the holder (4) occupies less space than when in the open position and the cooling volume can be used more effectively.

[0027] Consequently, particularly the "L" shaped holders (4), detachable from narrow structures such as the door shelf (3) can be configured with a width and structure both for safely holding and storing the items placed thereon and also for storing the said holder (4) in the cooling device (1) by folding on a surface having a narrow surface area like the door shelf (3).

[0028] In another embodiment of the present invention, the cooling device (1) comprises a locking mechanism (7) disposed under the shelf (3) for keeping the holder (4) in the closed position. The locking mechanism (7) provides the holder (4) to remain in a parallel position under the shelf (3) when changed to the closed position.

[0029] In another embodiment of the present invention, the holder (4) comprises more than one pin (10) providing the hanger (5) to be rotatably secured to the base (6) and the shelf (3), pivoting from the linkage points (S1). These pins (10) that pass from the linkage points (S1) and forming the rotational axis, provide the hanger (5) and the base (6) to be pivotably fastened to each other, the hanger (5) to be pivotably fastened to the shelf (3) for making the rotational movement.

[0030] In another version of this embodiment of the present invention, the holder (4) comprises more than one spring (11) wrapped over the pins (10) that are disposed on the base (6) and the hanger (5). The holder (4) is released from the locking mechanism (7) by the user when desired to be changed to the open position. The motion of the holder (4), released from the locking mechanism (7) and inclined to open by its own weight, is slowed down by the spring (11) compressing and exerting a force counteracting against the weight of the holder (4), preventing thereof to open fast uncontrollably, thus opening softly to resume the open position.

[0031] In another embodiment of the present invention, the cooling device (1) comprises one or more guardrails (8) formed like a protrusion on the base (6) for preventing the items placed on the base (6) from sliding and falling

off. In this embodiment, the guardrail (8) can also be folded over the base (6).

[0032] In another embodiment of the present invention, the hanger (5) is configured as a rod and holds the base (6) from both sides. Thus, when the base (6) is folded on the hanger (5), a lesser protrusion is formed on the hanger (5) plane and the holder (4) can be folded more conveniently under the shelf (3).

[0033] By means of the present invention, the holder (4) can be folded under the shelf (3) by the user in a parallel position. Thus, the interior of the body (2) can be used effectively.

Claims

1. A cooling device (1) that comprises a body (2) wherein items to be cooled are stored, a door (9) allowing access into the body (2) from the outside, and at least one shelf (3) disposed to the body (2) or the door (9) **and characterized by** a holder (4) having a hanger (5) secured under the shelf (3) pivotably, and a base (6) whereon objects are placed, secured pivotably to the other end of the hanger (5), - changing from the open position wherein the hanger (5) and the base (6) are virtually perpendicular with respect to each other and whereon items are placed, - to the closed position, with the base (6) and the hanger (5) rotating around the point pivoted to one another while the base (6) is folded over the hanger (5), - and the hanger (5) folding under the shelf (3) together with the base (6) by rotating around the point attached to the shelf (3).
2. A cooling device (1) as in Claim 1, **characterized by** an "L" shaped holder (4).
3. A cooling device (1) as in Claim 1 or 2, **characterized by** a holder (4) that comprises a stopper (12) maintaining the hanger (5) and the base (6) to remain perpendicular to each other when in the open position and preventing the base (6) from rotating around the point of attachment to the hanger (5) with the weight of the supported items.
4. A cooling device (1) as in Claim 1, **characterized by** a locking mechanism (7) disposed under the shelf (3) for keeping the holder (4) under the shelf (3) in the closed position.
5. A cooling device (1) as in Claim 1, **characterized by** a holder (4) that comprises more than one pin (10) providing the hanger (5) to be rotatably secured to the base (6) and the shelf (3), pivoting from the linkage points (S1).
6. A cooling device (1) as in Claim 1, **characterized by** a holder (4) comprising more than one spring (11) wrapped over the pins (10) that are disposed on the base (6) and the hanger (5).
7. A cooling device (1) as in Claim 1, **characterized by** one or more guardrails (8) formed like a protrusion on the base (6) for preventing the items placed on the base (6) from sliding and falling off.
8. A cooling device (1) as in Claim 1, **characterized by** a hanger (5) that is configured as a rod and holds the base (6) from both sides.

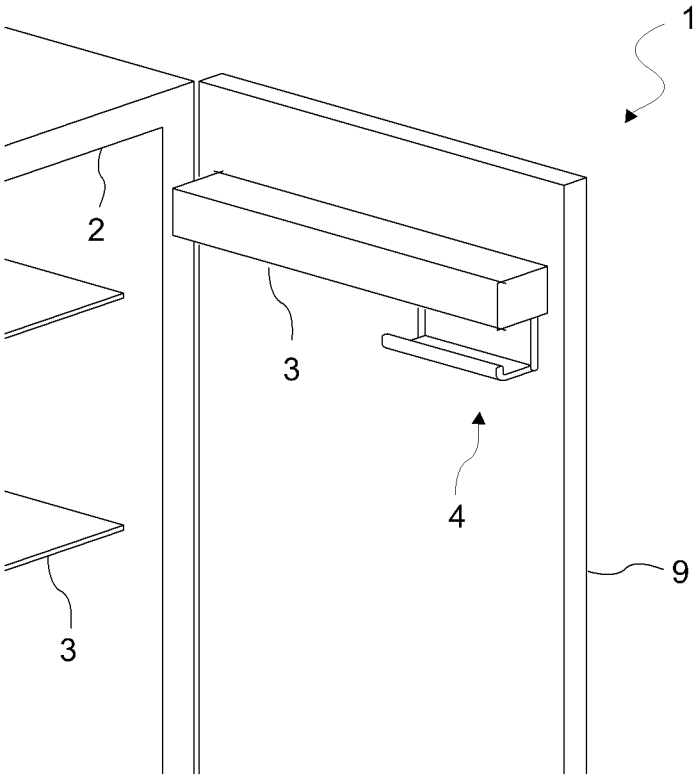


Fig. 1

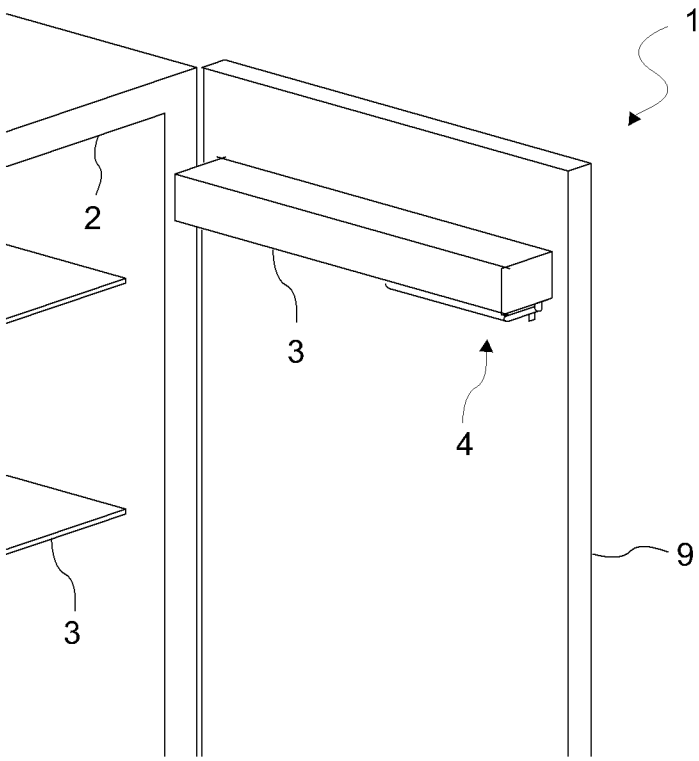


Fig. 2

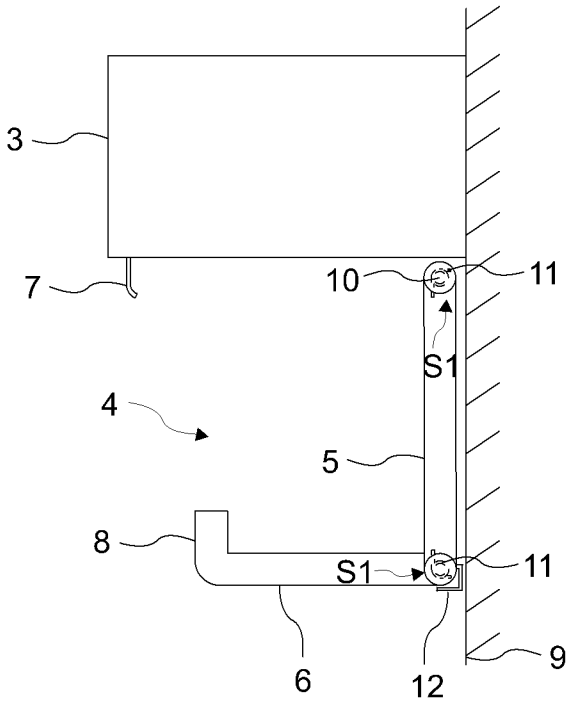


Fig. 3

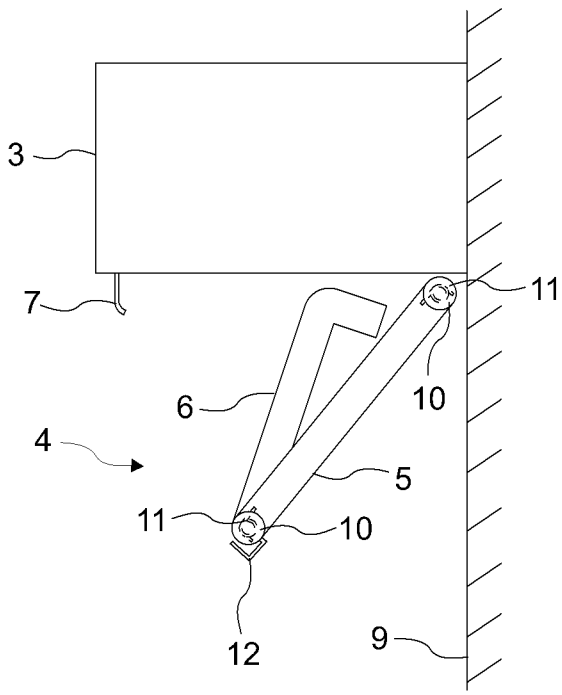


Fig. 4

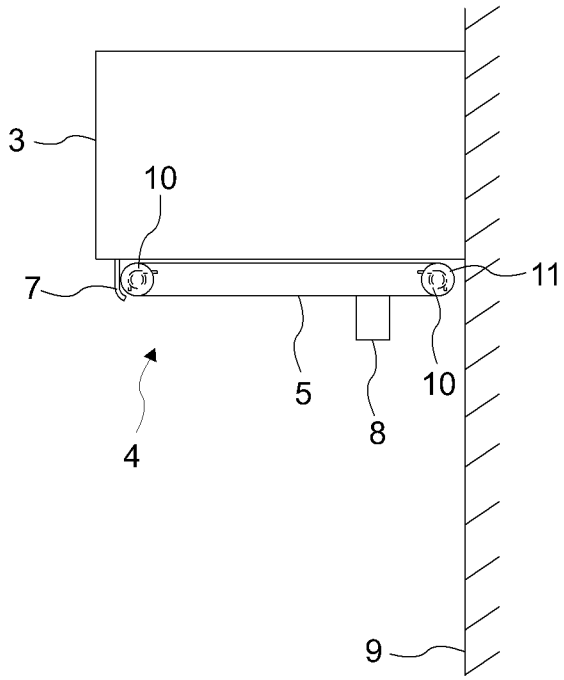


Fig. 5