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(54) **A COOLING DEVICE**

KÜHLVORRICHTUNG

DISPOSITIF DE REFROIDISSEMENT

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Description

[0001] The present invention relates to a cooling device comprising a holder that simplifies storing bottles.

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

[0003] In the state of the art United States of America Patent No US4528825, a shelf member is explained that can be folded under the upper shelf when not used.

[0004] In the state of the art European Patent No EP0917639, a storage device for stocking bottles is described that is folded for occupying less space when not used. The rings that form the bottle holder and connected to each other by a connector are attached to the shelf from two ends and folded underneath the shelf by rotating around the axis passing through these two ends.

[0005] Another state of the art International Patent Application No WO05059458, according to the preamble of claim 1, discloses bottle carriers that are moved along a group of slipways. One bottle can be stored when these are aligned at the same level such that their horizontal or vertical axis intercept, and when not aligned on the same level, more than one bottle can be stored.

[0006] The object of the present invention is to design a cooling device comprising a holder that carries and stores bottles, which occupies less space when not in use.

[0007] The cooling device designed to fulfill the objective of the present invention, is disclosed in the first claim and the respective claims thereof, comprises a holder having at least two leafs that are connected to each other from one of their ends by an articulated joint, connected to the rails from their free ends and pivoting around the connection points and also moving away, folded in parallel position on the shelf by a scissor-like motion.

[0008] The holder comprises at least two leafs that are successively connected to each other from one of their ends and mounted to the shelf from their free ends. The leafs pivot around the point of connection to each other and at the points of mounting to the rail, they both pivot and are moved farther away.

[0009] Thus the holder can be kept horizontal in the interior volume of the cooling device when not used, parallel to the shelf according to the choice of the user and the inner volume of the body can be used effectively.

[0010] In another embodiment of the present invention, the holder comprises two leafs configured as plates. These leafs are connected to each other by articulated joints from one of their ends and secured to the shelf from their free ends. In this embodiment, the holder extends lengthwise along the shelf. The holder having leafs configured as plates enable the bottles placed thereon to be stored and supported more safely. Moreover this type of leafs can be folded under the shelf more easily.

[0011] In another embodiment of the present invention, the leafs can be configured as wires or rods. One of the twosome pair of leafs formed by assembling at least two leafs articulately is placed in one rail and the other to the other rail. Thus the bottle placed between the leafs is supported from the head and the end by the leafs and is enabled to be stored safely. In this embodiment, since the leafs contact only the head and end of the bottle and not the whole body, the bottle can communicate with the cool air more effectively in the interior volume of the cooling device.

[0012] In this embodiment of the present invention, the cooling device furthermore comprises a connector that connects these leaf pairs to each other for the purpose of simultaneously moving the leaf pairs placed back to back.

[0013] With the present invention, the holder can be folded under the shelf and kept at that position when not used depending on the user's choice. Thus the inner space of the cooling device can be utilized more efficiently.

[0014] The cooling device designed to fulfill the objective of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of a cooling device.
Figure 2 - is the front view of the cooling device.
Figure 3 - is the sideways view of the cooling device.
Figure 4 - is the bottom view of the shelf whereto the holder having plate shaped leafs is placed.
Figure 5 - is the front view of the holder in another embodiment of the present invention.

[0015] The elements shown in the figures are numbered as follows:

1. Cooling device
2. Body
3. Shelf
4. Holder
5. Leaf
6. Slide
7. Pin
8. Connector
9. Rail

[0016] The cooling device (1) comprises a body (2) wherein items to be cooled are stored, a door allowing access to the inside from the outside, and one or more shelves (3) positioned inside at different levels, at least one rail (9) secured under the shelf (3) and at least one holder (4) placed to the rail (9) that moves along the rail (Figure1).

[0017] The holder (4) comprises at least two leafs (5) connected to each other successively, pivotably fastened to the rails (9) from the headmost and the rear ends, defining a volume wherein the bottle (F) is placed by being angularly positioned with respect to each other in the

open position (I) of loading that the bottle (F), moving away by pivoting around the points fastened to the rail (9) while changing to the closed position (II) by folding under the shelf (3) and the point of connection to each other moving vertically to the axis of loading (Figure 2).

[0018] The holder (4) comprises a slide (6) preferably having a "T" profile that is fitted into the rail (9) situated on the shelf (3).

[0019] In this embodiment of the present invention, joint points (S1) and connection points (S2) are provided on one end of each leaf (5). Two leafs (5) are pivotably connected to each other such that the joint points (S1) intercept. Thus the leafs (5) fastened to each other articulately move angularly with respect to each other. The connection points (S2) situated on the free ends of the leafs (5) and on both sides of the joint point (S1) wherein two leafs (5) are fastened to each other are separately mounted to the slides (6) on the rail (9). The leafs (5) pivot around these connection points (S2) and furthermore at least one moves away by slidingly moving on the rail (9) (Figure 3, Figure 4, and Figure 5).

[0020] Furthermore, the holder (4) comprises more than one pin (7) providing the leafs (5) to be articulately and pivotably fastened to each other and to the slides (6) from the joint and connection points (S1 and S2). These pins (7) that pass through the joint and connection points (S1 and S2) and form the pivoting axis provide the leafs (5) to be articulately fastened to each other and to the slides (6) such that they can make a pivoting movement.

[0021] When the holder (4) is in the open position (I) wherein a bottle (F) can be placed, the leafs (5) are connected to each other forming a "V", with an angle less than180° between the leafs (5). The bottle is placed between the leafs (5) thus connected. The leafs (5) support the bottle (F) and enable to be stored or carried safely.

[0022] In order to save space in the cooling device (1), when the holder (4) is changed to the closed position (II) wherein storage process is not carried out, force is exerted on at least one of the leafs (5) and the leafs (5) pivot around the joint point (S1) by which they are movably fastened to each other. Simultaneously the leafs (5) also pivot around the connection points (S2) by which they are connected to the slides (6) and the slides (6) make a distancing movement on the rail (9) simultaneously. As a result of this distancing movement, the slides (6) move away from each other and the leafs (5) with an angle of approximately 180 degrees therebetween, fold under the shelf (3) in the horizontal plane. During this movement, the joint point (S1) by which the leafs (5) are fastened to each other rises vertically to the loading axis depending on the distancing away of the other connection points (S2). The distancing movement (rising) of the joint points (S1) continues until reaching approximately the level of the connection points (S2). When the holder (4) is folded under the shelf (3), the joint and connection points (S1 and S2) are located on approximately the same plane and the holder (4) is in an approximate parallel position to the shelf (3).

[0023] In an embodiment of the present invention, the leafs (5) are configured as plates. These leafs (5) are articulately connected to each other from one of their ends and fastened to the shelf (3) from their free ends. In this embodiment, the holder (4) extends along the shelf (3). The holder (4) having leafs (5) configured as plates enable the bottle (F) placed thereon to be stored and supported more safely. Moreover this type of leafs (5) can be folded under the shelf (3) more easily.

[0024] In another embodiment of the present invention, the leafs (5) are configured as rods. In this embodiment, the holder (4) comprises at least four leafs (5) placed one in front of the other in the two opposite rails (9) situated under the shelf (3) and at least one connector (8) that connects together the leaf (5) pairs formed by securing at least two leafs (5) together. One of the twosome leaf (5) pairs formed by joining articulately at least two leafs (5) together is placed to one rail (9) and the other pair to the other rail (9). The distance between the leaf (5) pairs situated at two opposite rails (9) is adjusted such that the bottle (F) is supported from the neck and the bottom portions. In this way the bottle (F) placed between the leafs (5) is supported from top and the bottom by the leafs (5) and is stored safely. The connector (8) is furthermore secured to both leaf (5) pairs. In this embodiment, since the leafs (5) contact only the neck and bottom of the bottle (F) and not the whole body, the bottle (F) can communicate with the cool air more effectively in the interior volume of the cooling device (1).

[0025] By means of the connector (8), the movement of one leaf (5) pair is transferred to the other leaf (5) pair and also a base is formed for holding the bottle (F) more safely. When two connectors (8) are used, the connectors (8) provide the bottle (F) to be supported and stored more safely.

[0026] In another embodiment of the present invention, the holder (4) comprises two leafs (5) that are attached to the rail (9) from the headmost and rear ends and at least one leaf (5) remaining between these leafs (5) and forming a base in the holder (4), articulately joined from both ends to the other leafs (5). By means of this leaf (5) serving as a base, the bottle (F) placed in the holder (4) can be stored more securely (Figure 5).

[0027] In another embodiment of the present invention, the cooling device (1) comprises a locking mechanism provided in at least one of the leafs (5) for securing the holder (4) in the desired position (I or II). The locking mechanism provides the leafs (5) to stay in the closed position (II) by folding parallel to the shelf (3) and in the open position (I) to stay stationary with a certain angle therebetween for placing a bottle (F) therein.

[0028] By means of the present invention, the holder (4) can be folded in a parallel position under the shelf (3) by the user. Consequently, the interior of the body (2) can be used effectively.

Claims

1. A cooling device (1) comprising

   - a body (2) wherein items to be cooled are stored,
   - a door allowing access inside from the outside,
   - one or more shelves (3) positioned inside at different levels,
   - at least two rails (9) oppositely secured under a shelf (3) and being parallel to each other, and
   - at least one holder (4) placed to the rails (9), and being movable along the rails (9) said holder being

   characterized in that the holder (4) comprises at least two leafs (5) that are:

   a) connected to each other successively,
   b) fastened to the rails (9) articulately from their free ends,
   c) pivot around a connection point (S2) for connecting to each other and at joint points (S1) of mounting to the rails (9),
   d) defining a volume wherein a bottle (F) can be placed by positioning the leafs (5) angularly with respect to each other in an open position (I) for loading the bottle (F),
   e) pivoting around joint points (S1) of mounting to the rails (9) while changing from the open position (I) to a closed position (II), by folding under the shelf (3) and the connection point (S2) of the leafs (5) moving vertically with respect to the shelf (3).

2. A cooling device (1) as in Claim 1, **characterized in that** said holder (4) comprises a slide (6) having a "T" profile that is inserted into the rail (9) situated on the shelf (3).

3. A cooling device (1) as in Claim 2, **characterized in that** said leafs (5) comprises joint points (S1) or connection points (S2) on both ends, connected pivotably by articulating to each other such that one of the joint points (S1) intercept, separately mounted to the slides (6) on the rail (9) by the connection points (S2) situated on the free ends on both sides of the joint point (SI).

4. A cooling device (1) as in any one of the above claims, **characterized in that** the holder (4) comprises more than one pin (7) providing the leafs (5) to be pivotably fastened articulating to each other and to the slides (6) from the joint and connection points (S1 and S2).

5. A cooling device (1) as in any one of the above claims, **characterized in that** the leafs (5) are configured as plates.

6. A cooling device (1) as in Claim 1 to 4, **characterized in that** the leafs (5) are configured as rods.

7. A cooling device (1) as in Claim 6, **characterized by** two leaf (5) pairs formed by joining two leafs (5) articulately, whereby one is placed in one rail (9) and the other to the other rail (9).

8. A cooling device (1) as in Claim 7, **characterized by** a holder (4) comprising at least one connector (8) that connects the leaf (5) pairs with each other.

9. A cooling device (1) as in any one of the above claims, **characterized by** a holder (4) comprising two leafs (5) placed in the rail (9) from headmost and rear ends and at least one leaf (5) that remains between these leafs (5) and is connected articulately from both ends to the other leafs (5) thus forming a base.

10. A cooling device (1) as in any one of the above claims, **characterized by** one or more locking mechanisms for securing the holder (4) in desired position.

11. A cooling device (1) as in Claim 10, **characterized by** a locking mechanism provided in at least one of the leafs (5).

Patentansprüche

1. Ein Kühlgerät (1) bestehend aus

   - einem Körper (2), wobei die zum kühlenden Gegenstände gespeichert werden,
   - einer Tür, die den inneren Zugang vom Außen ermöglicht,
   - einer oder mehreren Regalen (3), die im Innern in verschiedenen Niveaus eingesetzt sind,
   - mindestens zwei Stäben (9), die gegeneinander unter einem Regal (3) gesichert sind und parallel zueinander verlaufen, und
   - mindestens einem Halter (4) eingelegt zu den Stäben (9), und beweglich ist entlang den Stäben (9), wobei besagter Holder

   dadurch gekennzeichnet ist, daß in diesem Halter (4) mindestens zwei Blätter (5) vorhanden sind, die:

   a) miteinander erfolgsreich verbunden sind,
   b) befestigt sind zu den Stäben (9) deutlich von ihren freien Enden,
   c) sich drehen um einen Verbindungspunkt (S2) für Verbindung miteinander und an Fugenstellen (S1) der Montage zu den Stäben (9),
   d) definieren ein Volumen, wobei eine Flasche

(F) eingestellt werden kann durch Versetzung der Blätter (5) bezüglich zueinander eckig in einer offenen Position (I) für Aufladung der Flasche (F),
e) sich drehen um Fugenstellen (S1) der Montage zu den Stäben (9), als Wechselung von offener Position (I) zu einer geschlossenen Position (II), durch Faltung unter dem Regal (3) und der Verbindungspunkt (S2) der Blätter (5) bewegen sich vertikal bezüglich dem Regal (3).

2. Ein Kühlgerät (1) nach Anspruch 1, **dadurch gekennzeichnet, daß** der besagte Halter (4) besteht aus einem Schieber (6) mit einem "T" Profil, das in den Stab (9) eingesteckt ist, der auf das Regal (3) hingestellt ist.

3. Ein Kühlgerät (1) nach Anspruch 2, **dadurch gekennzeichnet, daß** die besagten Blätter (5) bestehen aus Fugenstellen (S1) oder Verbindungspunkten (S2) an beiden Enden, verbunden drehbar durch ein Gelenk zueinander sodaß eine der Fugenstellen (S1) unterbricht, montiert getrennt zu den Schiebern (6) auf dem Stab (9) durch Verbindungspunkten (S2), die auf freien Enden an beiden Seiten der Fugenstelle (SI) hingestellt sind.

4. Ein Kühlgerät (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** der Halter (4) besteht aus mehr als einer Nadel (7), die sicherstellt, daß die Blätter (5) befestigt drehbar durch ein Gelenk zueinander und zu den Schiebern (6) von Fugenstellen und Verbindungspunkten (S1 und S2).

5. Ein Kühlgerät (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** die Blätter (5) als Platten konfiguriert sind.

6. Ein Kühlgerät (1) nach Ansprüchen 1 bis 4, **dadurch gekennzeichnet, daß** die Blätter (5) als Stäbe konfiguriert sind.

7. Ein Kühlgerät (1) nach Anspruch 6, **dadurch gekennzeichnet, daß** zwei Blatt (5) paaren durch Zusammenfügung von zwei Blättern (5) durch ein Gelenk gebildet sind, wo das eine in einen Stab (9) hingelegt ist und das andere in den anderen Stab (9).

8. Ein Kühlgerät (1) nach Anspruch 7, **dadurch gekennzeichnet, daß** ein Halter (4) mindestens aus einem Verbinder (8) besteht, der die Blatt (5) paaren miteinander verbindet.

9. Ein Kühlgerät (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** ein Halter (4) bestehend aus zwei Blättern (5), die in den Stab (9) hingelegt sind von vordersten und hintersten Enden und mindestens einem Blatt (5), das zwischen diesen Blättern (5) bleibt und verbunden durch ein Gelenk von beiden Enden zu anderen Blättern (5), sodaß ein Fuß gebildet ist.

10. Ein Kühlgerät (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** eine oder mehrere Schließmechanismen für die Sicherheit des Halters (4) ist.

11. Ein Kühlgerät (1) nach Anspruch 10, **dadurch gekennzeichnet, daß** ein Schließmechanismus mindestens in einer der Blättern (5) zur Verfügung gestellt ist.

Revendications

1. Un dispositif de refroidissement (1) comprenant

- un corps (2) dans lequel les éléments à refroidir sont stockés,
- une porte permettant l'accès à l'intérieur de l'extérieur,
- une ou plusieurs étagères (3) positionnées à l'intérieur à différents niveaux,
- au moins deux rails (9) fixés de manière opposée sous une étagère (3) et étant parallèles l'un à l'autre, et
- au moins un support (4) placé sur les rails (9), et pouvant être déplacé le long des rails (9), ledit support étant

caractérisé en ce que le support (4) comprend au moins deux rabats (5) qui sont:

a) connectés l'un à l'autre successivement,
b) fixés aux rails (9) de manière articulée à partir de leurs extrémités libres,
c) pivotant autour d'un point de connexion (S2) pour se connecter l'un à l'autre et à des points de jonction (S1) de montage sur les rails (9),
d) définissant un volume dans lequel une bouteille (F) peut être placée en positionnant les rabats (5) angulairement l'une par rapport à l'autre dans une position ouverte (I) pour charger la bouteille (F)
e) pivotant autour des points de jonction (S1) de montage sur les rails (9) tout en passant de la position ouverte (I) à une position fermée (II), en pliant sous l'étagère (3) et le point de connexion (S2) des rabats (5) se déplaçant verticalement par rapport à l'étagère (3).

2. Un dispositif de refroidissement (1) selon la revendication 1, **caractérisé en ce que** ledit support (4) comprend une glissière (6) ayant un profil "T" qui est inséré dans le rail (9) situé sur l'étagère (3).

3. Un dispositif de refroidissement (1) selon la revendication 2, **caractérisé en ce que** lesdites rabats (5) comprennent des points de jonction (S1) ou des points de connexion (S2) sur les deux extrémités, reliés par pivotement par articulation l'un de l'autre, de sorte que l'un des points de jonction (S1) intercepte, monté séparément sur les glissières (6) sur le rail (9) par les points de connexion (S2) situés sur les extrémités libres des deux côtés du point d'articulation (SI).

4. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le support (4) comprend plus d'une épingle (7) fournissant les rabats (5) pour être fixés de manière pivotante articulant l'un à l'autre et aux glissières (6) des points de jonction et de connexion (S1 et S2).

5. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les rabats (5) sont configurées sous forme de plaques.

6. Un dispositif de refroidissement (1) selon les revendications 1 à 4, **caractérisé en ce que** les rabats (5) sont configurés comme des tiges.

7. Un dispositif de refroidissement (1) selon la revendication 6, **caractérisé par** deux paires de rabats (5) formées en unissant deux rabats (5) de façon articulée, l'un étant placé dans un rail (9) et l'autre sur l'autre rail (9).

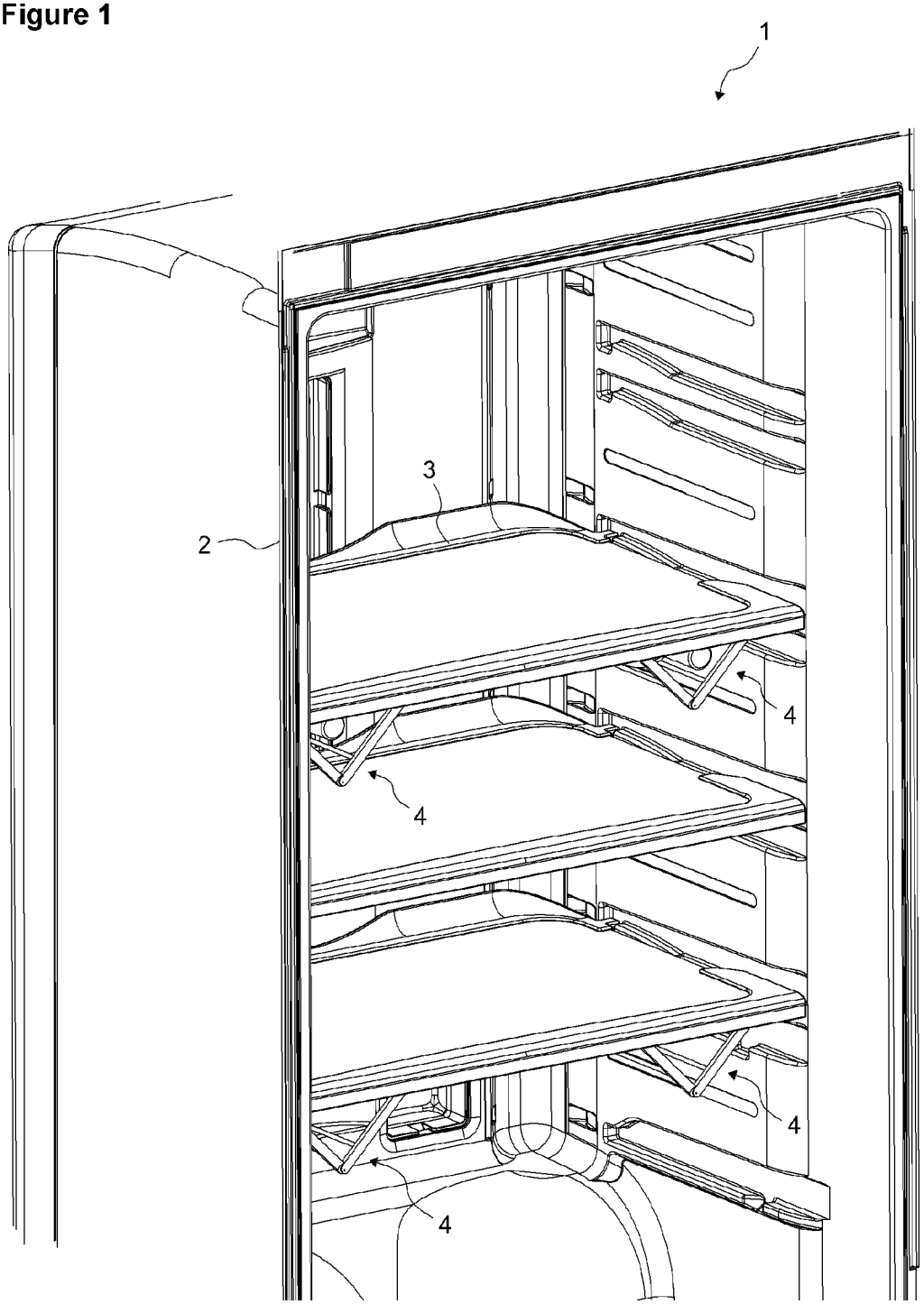
8. Un dispositif de refroidissement (1) selon la revendication 7, **caractérisé par** un support (4) comprenant au moins un connecteur (8) qui relie les feuilles (5) les unes aux autres.

9. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé par** un support (4) comprenant deux rabats (5) placés dans le rail (9) depuis les extrémités principales et arrière et au moins un rabat (5) qui reste entre ces rabats (5) et est reliée de manière articulée des deux extrémités aux autres rabats (5) formant ainsi une base.

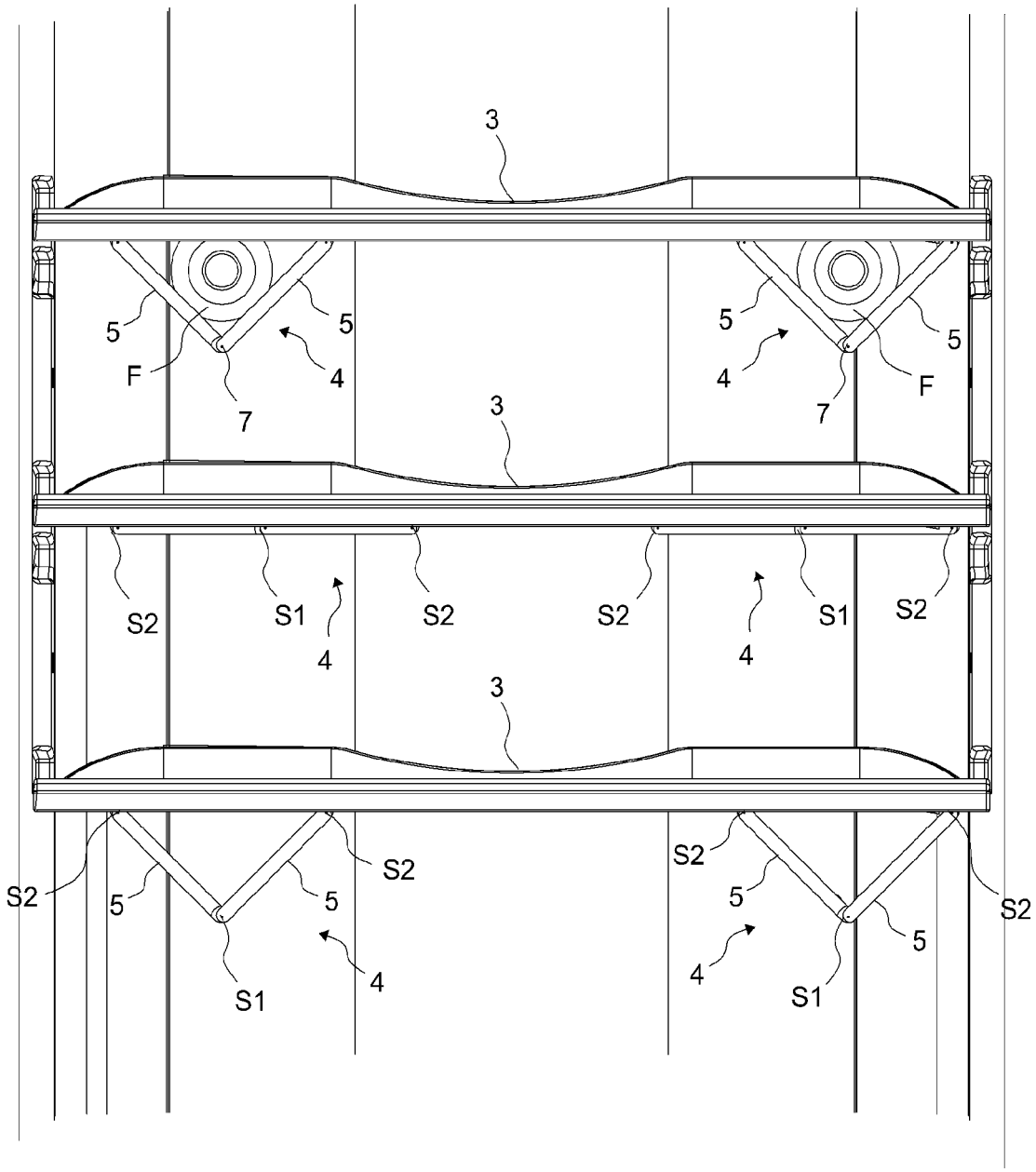
10. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé par** un ou plusieurs mécanismes de verrouillage pour fixer le support (4) en position souhaitée.

11. Un dispositif de refroidissement (1) selon la revendication 10, **caractérisé par** un mécanisme de verrouillage prévu dans au moins une des rabats (5).

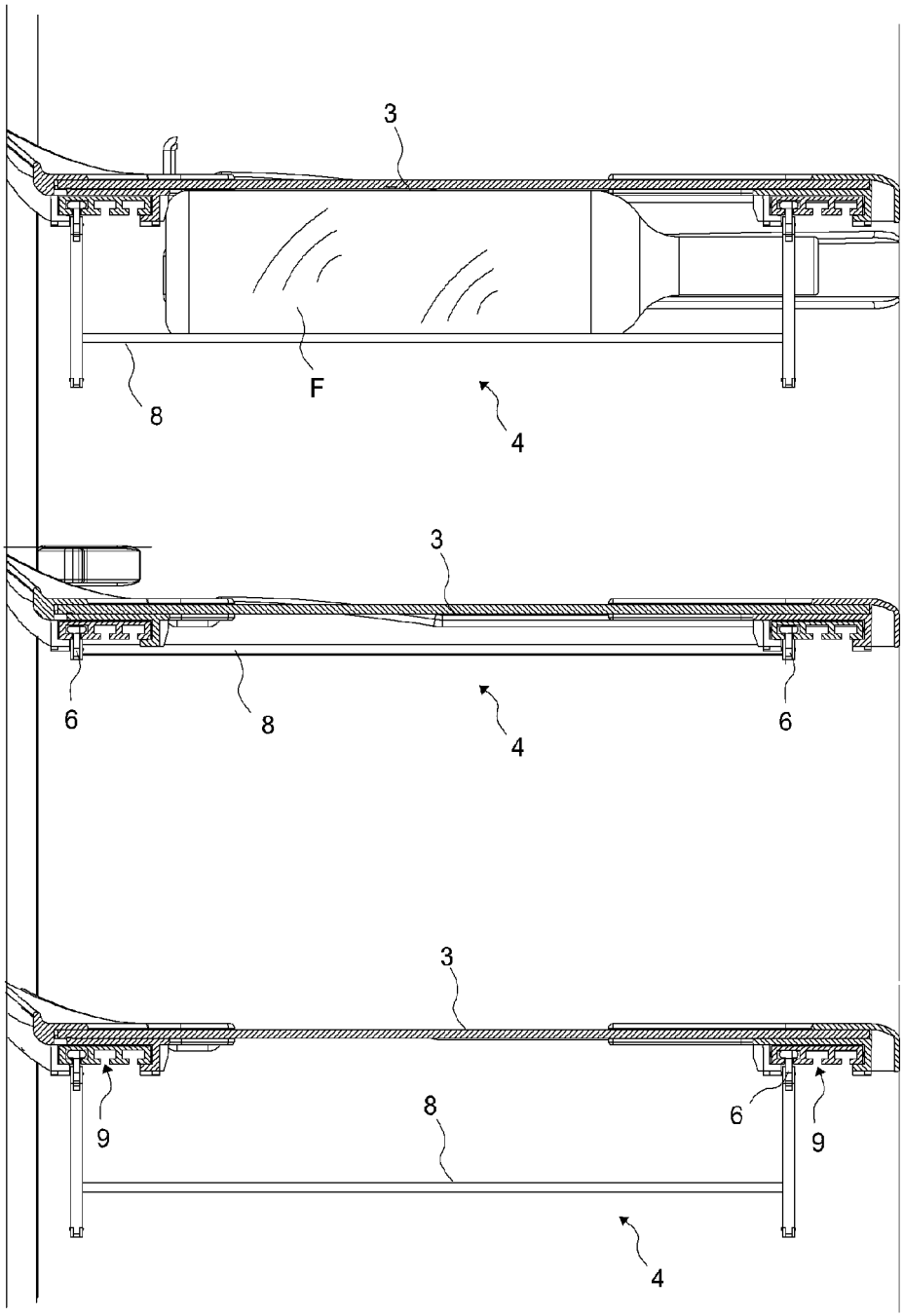
[Fig.]
Figure 1



[Fig.]
Figure 2



[Fig.]
Figure 3



[Fig.]
Figure 4

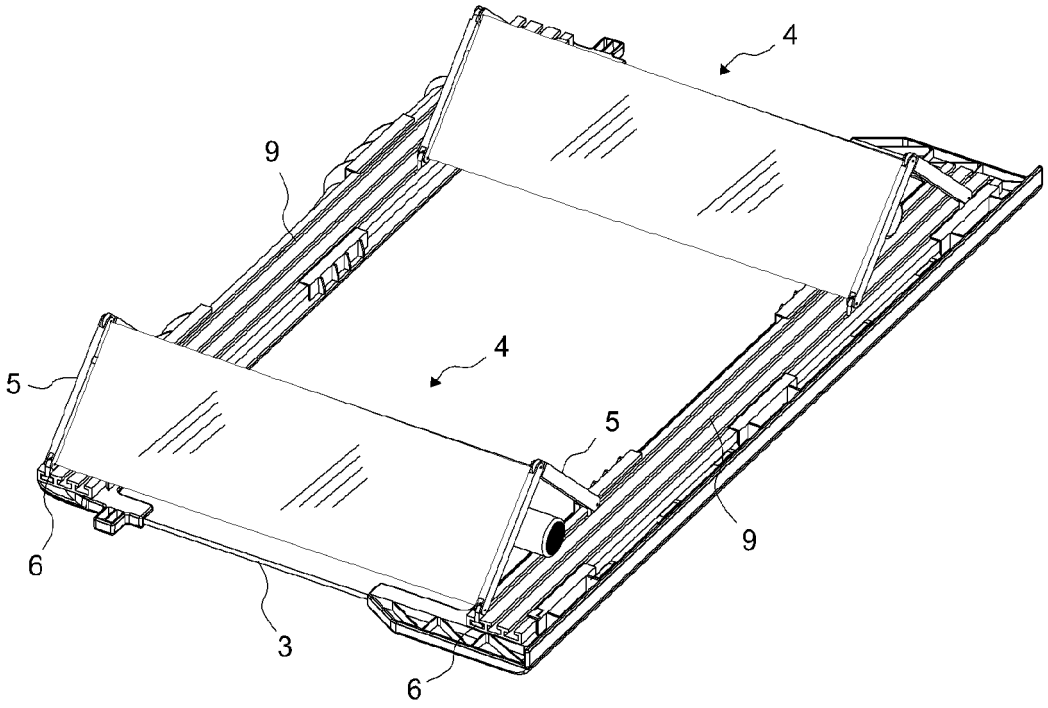
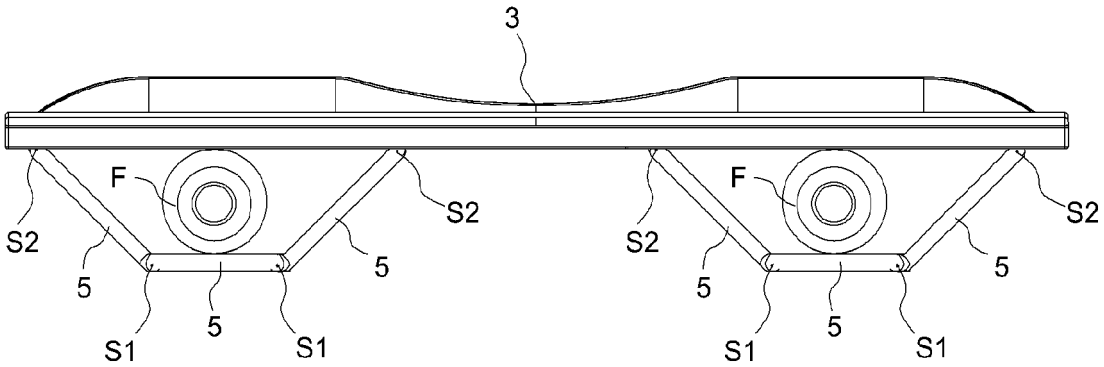


Figure 5



REFERENCES CITED IN THE DESCRIPTION

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- EP 0917639 A **[0004]**
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