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- (73) Patenthaver: **SEKO S.p.A., Via Salaria Km. 92,200 , Località Santa Rufina, 02010 Cittaducale (RI), Italien**
- (72) Opfinder: **ESPOSITO, Luigino, c/o SEKO S.p.A., VIA SALARIA KM. 92, 200 località SANTA RUFINA, 02010 Cittaducale (ri), Italien**  
**FIORENTINO, Francesco, c/o SEKO S.p.A., Via Salaria Km. 92 200, Località Santa Rufina, 02010 Cittaducale (RI), Italien**  
**PANTALEONI, Adrio, c/o Seko S.p.A., Via Salaria Km. 92, 200 località Santa Rufina, 02010 Cittaducale (RI), Italien**
- (74) Fuldmægtig i Danmark: **NORDIC PATENT SERVICE A/S, Bredgade 30, 1260 København K, Danmark**
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## DESCRIPTION

**[0001]** The present invention refers to a foldable shelf for storing objects, in particular for storing liquid containers, such as for instance containers containing concentrated chemicals for cleaning surfaces, that allows in a simple, reliable, efficient, versatile and inexpensive way to support the containers, or more generally objects, protecting them from possible tampering, simplifying the operations of transportation, assembling, installation and maintenance, while reducing at the same time its costs.

**[0002]** In the following of the present description, reference will be mainly made to a foldable shelf used for storing containers containing concentrated chemicals for cleaning surfaces. However, it must be noted that the foldable shelf according to the invention may be used for containing also containers, and more generally objects, of different type, still remaining within the scope of protection of the present invention.

**[0003]** It is known that mixing apparatuses are widespread. In particular, in the field of cleaning and disinfection of surfaces, such apparatuses allow both water-only treatment and addition of concentrated chemicals, such as for instance disinfectants, soaps, wet foams and dry foams. Such apparatuses comprise diluting devices (possibly manually operated pumps), provided with Venturi valves, or dosing pumps, which contribute to mixing the concentrated chemicals with water and to dispensing the obtained mixture according to accurate dosages.

**[0004]** In particular, the concentrated chemicals are stored in dedicated containers, from which they are drawn for mixing, which are in turn stored in container holder elements and shelves.

**[0005]** The holder elements and shelves support the concentrated chemical containers, which usually have a capacity equal to 1, 2,5 or 5 litres (or similar capacity according to American measurement units, namely gallons), avoiding contact with the floor, in public places or places with access limited to staff. In particular, this is established by the HACCP (Hazard Analysis and Critical Control Points) protocol, that requires a high level of cleanliness of environments to prevent a possible contamination of foods, since contact of the containers with the floor would generate a point of accumulation of dirt.

**[0006]** Also, some prior art container holder shelves are closed and inaccessible to protect containers from undue uses and tampering. In fact, cleaning products, such as degreasers, disinfectants, detergents, sanitizers, are numerous and all potentially dangerous, most of all in case of concentrated and super concentrated chemicals (intended for professional use), whereby it is necessary to separate the containers so as to avoid the risks of contact with people and animals, even in order to reduce risks in working environments. Furthermore, the containers could be sabotaged, for instance by altering the chemicals contained therein. In this regard, the same customers of concentrated chemical vendors can occasionally not comply with the contract by autonomously getting supplies through secondary channels offering non-genuine products at lower prices, even notwithstanding the constraints usually imposed to

customers through contracts of loan for use concerning dosing equipment (and container holder elements and shelves).

**[0007]** Currently available container holder elements and shelves are made in several ways and suffer from some drawbacks.

**[0008]** A first type of prior art container holder elements are the (plastic or stainless steel) container holding hook-like elements configured to be attached to a wall, to each one of which a handle of a container containing the concentrated chemical is hooked, which are inexpensive, resistant to chemical aggression, robust and which take up a very reduced space when they are stored. However, such container holding elements do not protect containers (which are easily accessible) from undue uses and tampering, the container hooked to the element is exposed to accidental bumps, and moreover not all the containers are provided with a handle configured to be hooked to the hook of the container holding element.

**[0009]** A second type of prior art container holder shelves are the ones made with bent, welded and painted steel wires, which are inexpensive, resistant to bumps and, in the case where the steel is stainless, resistant to chemical aggression by the concentrated chemicals. However, such shelves are bulky, whereby their storage takes up a lot of space, and they do not protect the containers (which are easily accessible) from undue uses and tampering; also, if the steel is not stainless, the metal is chemically etched and rusts with the concentrated chemicals fumes.

**[0010]** A third type of prior art container holder shelves are the closable ones made of plastics, which are inexpensive, resistant to chemical aggression and protecting containers from undue uses and tampering. However, such shelves are bulky, whereby their storage takes up a lot of space, and moreover they are often not much robust and, consequently, not much resistant to bumps. A fourth type prior art container is disclosed in XP055358882.

**[0011]** Finally, all the prior art container holder shelves suffer from the drawback to be not easily adaptable to the spaces where they must be installed, consequently rendering installation complex and expensive.

**[0012]** Therefore, it is an object of the present invention to allow storage of liquid containers, such as for instance containers containing concentrated chemicals for cleaning surfaces, and more generally objects, in a simple, reliable, efficient, versatile and inexpensive way, protecting the containers (and more generally objects) from possible tampering, also simplifying the operations of transportation, assembling, installation and maintenance, while reducing at the same time its costs.

**[0013]** It is specific subject matter of the present invention a foldable shelf for storing objects, in particular for storing liquid containers, comprising a bracket configured to be attached to a wall and a foldable box including a supporting frame comprising two ledges, which are parallel to each other and integrally connected to each other through two connecting bars, wherein the

foldable box further comprises a pair of first walls and a pair of second walls, each one of the first walls being hinged along a first edge to a respective bar of the two connecting bars, whereby each one of the first walls is configured to assume an angular position ranging from a first limit angular position, wherein a second edge of the first wall opposite to the first edge is at a minimum distance from the two ledges, to a second limit angular position, wherein the second edge is at a maximum distance from the two ledges, each one of the second walls being hinged along a first edge to a respective ledge out of the two ledges, whereby each one of the second walls is configured to assume an angular position ranging from a first limit angular position, wherein a second edge of the second wall opposite to the first edge is at a minimum distance from the two connecting bars, to a second limit angular position, wherein the second edge is at a maximum distance from the two connecting bars, where the foldable box is configured to assume a fully folded configuration, wherein the first and second walls are at the respective first limit angular positions, and an operative configuration, wherein the first and second walls are at the respective second limit angular positions, wherein the first and second walls are respectively provided with first and second mechanical stabilising elements configured to mutually interact with each other to cause the first and second walls to stably maintain their respective second limit angular positions, a first pair of walls selected out of the pair of first walls and the pair of second walls being provided with projecting elements configured to slide, when the foldable box assumes its operative configuration, in corresponding slots of the bracket along a coupling linear direction until they reach a lock position wherein the foldable box is stably attached to the bracket and the foldable shelf assumes an operative configuration, wherein the bracket is provided with elastic locking elements configured to interact with the other pair of walls selected out of the pair of first walls and the pair of second walls to cause the foldable shelf to stably assume its operative configuration.

**[0014]** According to another aspect of the invention, the supporting frame may be provided with at least one door hinged to one out of the two connecting bars or to one out of the two ledges, said at least one door being configured to assume a closed configuration wherein the foldable shelf, when it assumes its operative configuration, is closed.

**[0015]** According to a further aspect of the invention, said at least one door may be provided with a lock configured to lock said at least one door in its closed configuration.

**[0016]** According to an additional aspect of the invention, said at least one door may be provided with a transparent panel.

**[0017]** According to another aspect of the invention, when the foldable shelf assumes an operative configuration and is closed, at least part of the first and second mechanical stabilising elements and at least part of the elastic locking elements may be inaccessible from outside.

**[0018]** According to a further aspect of the invention, the first pair of walls may consist of the pair of first walls and the other pair of walls may consist of the pair of second walls.

**[0019]** According to an additional aspect of the invention, said first mechanical stabilising elements may comprise:

- one or more, optionally two or more, teeth with which each one of the first walls is provided in proximity of each one of two angles opposite to the first edge of the respective first wall, said one or more teeth being directed towards the inside of the foldable shelf when the latter assumes its operative configuration and configured to elastically bend towards the outside of the supporting frame of the foldable box, and
- a plurality of alignment pins with which each one of the first walls is provided along two respective third edges, joining the first and second edges of the respective first wall, wherein the alignment pins are directed towards the inside of the foldable shelf when the latter assumes its operative configuration,

and said second mechanical stabilising elements may comprise:

- a plurality of slots with which each one of the second walls is provided along two respective third edges, joining the first and second edge of the respective second wall,

wherein, when the foldable box assumes the operative configuration, the two third edges of each one of the first walls are configured to come into contact with corresponding third edges of the pair of second walls so that the respective alignment pins insert into corresponding slots of the two corresponding third edges of the second walls, and said one or more teeth with which each one of the first walls is provided are configured to assume a rest position at which they interact with the corresponding third edges, whereby said one or more teeth are configured to lock the second walls in the respective second limit angular positions.

**[0020]** According to another aspect of the invention, said projecting elements may be positioned in correspondence with the second edges of each one of the second walls, and each one of the corresponding slots of the bracket may comprise a receiving portion and a locking portion, wherein the receiving portion has a width larger than a width of the locking portion, each one of the projecting elements having a planar end, having a width larger than the width of the locking portion, that is configured to insert into the receiving portion and to cause the projecting element to slide from the receiving portion to the locking portion, where the planar end is configured to interact with the locking portion to cause the projecting element to be stably locked into the corresponding slot.

**[0021]** According to a further aspect of the invention, said elastic locking elements may comprise at least one pair of teeth positioned along each one of two edges of the bracket configured to come into contact with the second walls when the foldable shelf assumes its operative configuration, wherein said at least one pair of teeth are directed towards the inside of the foldable shelf when the latter assumes its operative configuration, said at least one pair of teeth being configured to elastically bend towards the outside of the foldable shelf when the latter assumes its operative configuration, wherein said at least one pair of teeth are configured to assume a rest position at which they interact with the second walls, whereby said at least one pair of teeth are configured to prevent the second walls from mutually sliding with

respect to the bracket along the coupling linear direction and a direction opposite to the coupling linear direction when the foldable shelf assumes its operative configuration.

**[0022]** According to an additional aspect of the invention, the second walls may be provided with ribs having projecting ends which project from the second edges of the second walls, the projecting ends of the ribs of one out of the second walls being configured to insert into corresponding edge notches of the bracket, and the projecting ends of the ribs of the other one out of the second walls being configured to insert and slide in corresponding linear slots of the bracket until getting into contact with ends of the corresponding linear slots, whereby the corresponding edge notches and the ends of the corresponding linear slots of the bracket are configured to prevent the projecting ends of the ribs of the second walls from sliding with respect to the bracket along the coupling linear direction when the foldable shelf assumes its own operative configuration.

**[0023]** According to another aspect of the invention, one or more walls out of the first walls and the second walls may be provided with one or more removable portions delimited by cut-out lines.

**[0024]** According to a further aspect of the invention, the bracket may be provided with:

- one or more projecting sliders, and
- one or more projecting hollow guides,

wherein said one or more projecting sliders and said one or more projecting hollow guides are arranged along at least two edges of the bracket opposite to each other, each projecting slider being configured to insert into a hollow guide identical to one of said one or more projecting hollow guides until reaching a stop position, whereby the bracket is configured to be mounted in a modular way to one or more external brackets provided with at least one slider identical to one of said one or more projecting sliders and/or with at least one hollow guide identical to one of said one or more projecting hollow guides.

**[0025]** According to an additional aspect of the invention, the foldable shelf may further comprise at least one stroke limiting element configured to be mounted onto one of said one or more projecting hollow guides and to limit a stroke of a slider identical to one of said one or more projecting sliders.

**[0026]** According to another aspect of the invention, the bracket may be provided with:

- one or more projecting discs, and
- one or more projecting gripper elements,

wherein said one or more projecting discs and said one or more projecting gripper elements are arranged along at least two edges of the bracket opposite to each other, each projecting gripper element being configured to receive and lock a disc identical to one of said one or more projecting discs, whereby the bracket is configured to be mounted in a modular way to

one or more external brackets provided with at least one disc identical to one of said one or more projecting discs and/or with at least one gripper element identical to one of said one or more projecting gripper elements, wherein said one or more projecting discs are optionally positioned in corresponding edge recesses of the bracket.

**[0027]** According to a further aspect of the invention, at least one out of the bracket and the foldable box may be made of plastic material.

**[0028]** The advantages offered by the foldable shelf according to the invention are evident.

**[0029]** First of all, it allows to be stored and easily transported, since in the fully folded configuration it has an extremely limited size.

**[0030]** Also, the foldable shelf according to the invention is simple to install and optionally allows to make shelf structures which are versatile and easily adaptable to the available specific spaces. In fact, its bracket for attachment to wall may have such a shape to render it modular, whereby it may be also mounted along with other shelves or devices (e.g. a diluter of concentrated chemical in water or a dosing pump) having similar brackets for attachment to wall carrying out multiple customisable combinations and configurations.

**[0031]** Once installed in the operative configuration and closed, the foldable shelf according to the invention further ensures in a reliable and efficient way support and, where provided with lock, protection of the liquid containers (and more generally of the objects) contained therein from possible tampering and unauthorised accesses.

**[0032]** Furthermore, the foldable shelf according to the invention, that is made (at least partially) of plastic material, is durable, since it is resistant to the action of concentrated chemicals (i.e. it does not oxidise).

**[0033]** Moreover, the foldable shelf according to the invention is inexpensive and it can be made according to a design with smooth surfaces rendering the same easy to clean.

**[0034]** The present invention will be now described, by way of illustration and not by way of limitation, according to its preferred embodiments, by particularly referring to the Figures of the annexed drawings, in which:

Figure 1 shows a first front perspective view of a preferred embodiment of the foldable shelf according to the invention in an open operative configuration;

Figure 2 shows a front perspective view of the bracket of the foldable shelf of Figure 1;

Figure 3 shows a rear perspective view of the foldable box of the foldable shelf of Figure 1 in a fully folded configuration;

Figure 4 shows a rear perspective view of the foldable box of Figure 3 in a first intermediate

configuration between the fully folded configuration and an operative configuration;

Figure 5 shows a rear perspective view of the foldable box of Figure 3 in a second intermediate configuration between the fully folded configuration and the operative configuration;

Figure 6 shows a rear perspective view of the foldable box of Figure 3 in a third intermediate configuration between the fully folded configuration and the operative configuration;

Figure 7a shows a rear perspective view of the foldable box of Figure 3 in a fourth intermediate configuration between the fully folded configuration and the operative configuration, and Figure 7b shows a particular of Figure 7a;

Figure 8a shows a rear perspective view of the foldable box of Figure 3 in the operative configuration, and Figure 8b shows a particular of Figure 8a;

Figure 9a shows a first front perspective view of a first step of coupling of the bracket of Figure 2 to the foldable box of Figure 8a, Figure 9b shows a front perspective view of a second step of coupling of the bracket of Figure 2 to the foldable box of Figure 8a, and Figure 9c shows a rear perspective view of the second coupling step of Figure 9b;

Figure 10a shows a partially exploded front perspective view of the foldable shelf of Figure 1 in an open operative configuration, and Figure 10b shows a particular of Figure 10a;

Figure 11a shows a partially exploded rear perspective view of the foldable shelf of Figure 1 in an open operative configuration, and Figure 11b shows a particular of Figure 11a;

Figure 12 shows a second front perspective view of the foldable shelf of Figure 1 in an open operative configuration;

Figure 13a shows a third front perspective view of the foldable shelf of Figure 1 in an open operative configuration, and Figure 13b shows a particular of Figure 13a;

Figure 14 shows a fourth front perspective view of the foldable shelf of Figure 1 in an open operative configuration;

Figure 15 shows a rear view of the foldable shelf of Figure 1 in an open operative configuration;

Figure 16a shows a front perspective view of three brackets identical to the bracket of Figure 2 in a first step of mutual coupling, and Figure 16b shows a particular of Figure 16a;

Figure 17a shows a front perspective view of the three brackets of Figure 16a when mutually coupled, and Figure 17b shows a particular of Figure 17a;

Figure 18a shows a front perspective view of three brackets identical to the bracket of Figure 2 in a second step of mutual coupling, and Figure 18b shows the three brackets of Figure 18a when mutually coupled;

Figure 19a shows a front perspective view of the bracket of Figure 2 in a step of mounting two stroke limiting elements, Figure 19b shows a perspective view of a stroke limiting element, Figure 19c shows a front perspective view of the bracket of Figure 2 on which two stroke limiting elements are mounted, Figure 19d shows a particular of Figure 19c, Figure 19e shows a front view of the bracket of Figure 19c coupled to a first external bracket according to a first configuration, Figure 19f shows a front view of the bracket of Figure 19c coupled to the first external bracket according to a second configuration, Figure 19g shows a front view of the bracket of Figure 19c coupled to the first external bracket according to a third configuration, and Figure 19h shows a particular of Figure 19e;

Figure 20a shows a front view of a first assembly of the foldable shelf of Figure 1 in a closed operative configuration coupled to an external dispensing apparatus, Figure 20b shows a front view of the first assembly of Figure 20b wherein a cover of the external dispensing apparatus has been removed, and Figure 20c shows a front perspective view of the first assembly of Figure 20b; and

Figure 21a shows a front perspective view of a second assembly of the foldable shelf of Figure 1 in the open operative configuration coupled to an external diluting apparatus, Figure 21b shows a front perspective view of the second assembly of Figure 21a wherein the foldable shelf is in the closed operative configuration, Figure 21c shows a front perspective view of a third assembly of the foldable shelf of Figure 1 in the closed operative configuration coupled to an external diluting apparatus, and Figure 21d shows a front perspective view of a fourth assembly comprising four foldable shelves identical to the one of Figure 1 in the closed operative configuration coupled to each other and to an external diluting apparatus.

**[0035]** In the Figures, identical reference numerals will be used for alike elements.

**[0036]** In the following of the description, directional terminology, such as "right", "left", "front", "rear", "base", "top", "upper", "lower", "side", etc., is used with reference to the Figures of the attached drawings. Since components and/or elements and/or embodiments of the present invention may be positioned and/or caused to operate in various different orientations, directional terminology is merely used by way of example and not by way of limitation.

**[0037]** With reference to Figure 1, a preferred embodiment of the foldable shelf 100 according to the invention in an open operative configuration (and attached to a wall, not shown) may be observed, wherein the front door 190 is open and the inside of the foldable shelf 100 is accessible; in particular, a container 200 containing concentrated chemicals is shown inside the foldable shelf 100.

**[0038]** In particular, the foldable shelf 100 comprises a bracket 110, that is substantially planar and is configured to be attached to a wall, shown in Figure 2, and a foldable box 120, that is shown in Figure 3 in the fully folded configuration. Advantageously, one or both of the bracket 110 and the foldable box 120 are made of plastic material.

**[0039]** The foldable box 120 includes a supporting frame comprising two ledges 132 and 133 parallel to each other and integrally connected to each other through two connecting bars 134 and 135, substantially orthogonal to the two ledges 132 and 133; optionally, the two connecting bars 134 and 135 are (at least partially) planar and (the respective planar portions) are parallel to each other.

**[0040]** As shown in Figures 2-8, the foldable box 120 comprises two side walls 122 and 123 and two end walls 124 and 125.

**[0041]** Each one of the two side walls 122 and 123 is hinged on a respective connecting bar, respectively 134 and 135, so that each side wall, 122 or 123, is configured to assume an angular position ranging from a first limit angular position (shown in Figure 3) to a second limit angular position (shown in Figures 5-8): in the first limit angular position, the edge of the side wall, 122 or 123, opposite to the edge hinged on the respective connecting bar, 134 or 135, is at a minimum distance from the two ledges 132 and 133 (whereby the side wall, 122 or 123, is substantially arranged towards the inside of the supporting frame); in the second limit angular position, the edge of the side wall, 122 or 123, opposite to the edge hinged on the respective connecting bar, 134 or 135, is at a maximum distance from the two ledges 132 and 133 (whereby the side wall, 122 or 123, is substantially arranged towards the outside of the supporting frame), and optionally the side wall, 122 or 123, is arranged so as to be contiguous to the respective connecting bar, 134 or 135, and not to form sharp edges with the latter.

**[0042]** Each one of the two end walls 124 and 125 is hinged on a respective ledge, respectively 132 and 133, so that each end wall, 124 or 125, is configured to assume an angular position ranging from a first limit angular position (shown in Figures 3-5) to a second limit angular position (shown in Figure 8): in the first limit angular position, the edge of the end wall, 124 or 125, opposite to the edge hinged on the respective ledge, 132 or 133, is at a minimum distance from the two connecting bars 134 and 135 (whereby the end wall, 124 or 125, is substantially arranged towards the inside of the supporting frame); in the second limit angular position, the edge of the end wall, 124 or 125, opposite to the edge hinged to the respective ledge, 132 or 133, is at a maximum distance from the two connecting bars 134 and 135 (whereby the end wall, 124 or 125, is substantially arranged towards the outside of the supporting frame), and optionally the end wall, 124 or 125, is arranged so as to be contiguous to the respective ledge, 132 or 133, and not to form sharp edges with the latter.

**[0043]** When the foldable box 120 assumes the fully folded configuration shown in Figure 3, the foldable shelf 100 occupies a minimum space wherein it may be advantageously stored and transported. When the two side walls 122 and 123 and the two end walls 124 and 125 of the foldable box 120 are in the respective second limit angular positions, as shown in Figure 8, the foldable box 120 is in the operative configuration (and the foldable shelf 100 may assume the corresponding operative configuration).

**[0044]** In order to make the foldable box 120 assume the operative configuration, starting from

the fully folded configuration shown in Figure 3, the two side walls 122 and 123 must first assume the respective second limit angular position, as shown in Figure 5, and then the two end walls 124 and 125 must assume the respective second limit angular position, as shown in Figure 8.

**[0045]** In particular, in the preferred embodiment shown in the Figures, the foldable shelf 100 is configured so that the two side walls 122 and 123 may assume the respective first limit angular position (shown in Figure 3) only when the two end walls 124 and 125 assume the respective first limit angular position (shown in Figures 3-5), and the two end walls 124 and 125 may assume an angular position different from the respective first limit angular position only when the two side walls 122 and 123 assume the respective second limit angular position (shown in Figures 5-8).

**[0046]** In the preferred embodiment of the foldable shelf 100 shown in the Figures, the two side walls 122 and 123 and the two end walls 124 and 125 of the foldable box 120 stably maintain the respective second limit angular positions, as shown in Figure 8, thanks to mutually interacting mechanical stabilising elements with which the two side walls 122 and 123 and the two end walls 124 and 125 are provided. In particular, each one of the two side walls 122 and 123 is provided, in proximity of each one of the two angles opposite to the edge hinged on the respective connecting bar, 134 or 135, with two teeth 126 and 127 directed towards the inside of the supporting frame (i.e. directed towards the inside of the foldable shelf 100 when the latter assumes its own operative configuration) and configured to elastically bend towards the outside of the supporting frame. Also, each one of the two side walls 122 and 123 is provided, on the edges 130A and 131A configured to come into contact with corresponding edges 130B and 131B of the two end walls 124 and 125, respectively, when the foldable box 120 assumes the operative configuration, with alignment pins 128A and 129A directed towards the inside of the supporting frame (i.e. directed towards the inside of the foldable shelf 100 when the latter assumes its own operative configuration) and configured to insert into corresponding slots, respectively 128B and 129B, with which the edges 130B and 131B of the two end walls 124 and 125 are provided. As shown in Figures 7b and 8b, when the two side walls 122 and 123 assume their respective second limit angular position and the two end walls 124 and 125 rotate starting from their respective first limit angular position, the two end walls 124 and 125 come into contact with the teeth 126 and 127, which elastically outwards bend during the passage of the two end walls 124 and 125, until they stably assume their respective second limit angular position wherein the alignment pins 128A and 129A of the edges 130A and 131A are inserted into the slots, respectively 128B and 129B, of the edges 130B and 131B and the teeth 126 and 127, returned to the rest position, interact with the edges 130B and 131B thus locking the two end walls 124 and 125 in their respective second limit angular position.

**[0047]** In this regard, it must be understood that other embodiments of the foldable shelf according to the invention may be differently configured, for instance in such a way that the two end walls may assume their respective first limit angular position only when the two side walls assume their respective first limit angular position and the two side walls may assume an angular position different from the respective first limit angular position only when the two end

walls assume their respective second limit angular position. Also, further embodiments of the foldable shelf according to the invention may have, alternatively to or in combination with the presence of elastically flexible teeth on the two side walls 122 and 123, similar elastically flexible teeth present on the two end walls 124 and 125 configured to interact with the two side walls 122 and 123. Furthermore, other embodiments of the foldable shelf according to the invention may be deprived of mechanical alignment elements or provided with mechanical alignment elements different from the alignment pins 128A and 129A and corresponding slots 128B and 129B.

**[0048]** Installation of the foldable shelf 100 is carried out by attaching the bracket 110 to a wall through conventional attachment elements inserted into through holes 111 with which the bracket 110 is provided, for instance through screws 300, provided with washers 304, inserted into the through holes 111 and into wall plugs 302, as shown in Figure 2.

**[0049]** Then, the foldable box 120 in the operative configuration of Figure 8 is attached to the bracket 110 by making projecting elements with which the side walls 122 and 123 are provided slide, along a coupling linear direction, in corresponding properly shaped slots of the bracket 110 until they reach a lock position at which the foldable box 120 is stably attached to the bracket 110, as it is illustrated in detail later.

**[0050]** With reference to Figures 9-11, the side walls 122 and 123 are provided with projecting elements 142 and 143, respectively, in correspondence of the edges opposite to the edges hinged on the respective connecting bars 134 and 135 (optionally four ones for each edge), and the bracket 110 is provided with properly shaped slots 112 and 113, each one having a receiving portion with a width larger than the width of a locking portion, in correspondence of the edges coming into contact with the side walls 122 and 123, respectively, when the foldable shelf assumes its operative configuration. As particularly shown in Figures 10b and 11b for the projecting elements 143 and the slots 113, the former are shaped so as to have a planar end 143A configured to insert into the receiving portion 113A (where the planar end of the projecting elements 142 and 143 has a width equal or, preferably, slightly lower than the width of the receiving portion of the properly shaped slots 112 and 113), so that the projecting elements 142 and 143 slide from the receiving portion 113A to the locking portion 113B, where the interaction of the planar end 143A with the latter locks the projecting elements 142 and 143 in the properly shaped slots 112 and 113 (since the planar end of the projecting elements 142 and 143 has a width larger than the width of the locking portion of the properly shaped slots 112 and 113). Insertion of the projecting elements 142 and 143 into the properly shaped slots 112 and 113 is schematically illustrated in Figure 9, where the arrow S of Figure 9c indicates the coupling linear direction along which the former slide in the latter: such direction is convenient because it is concordant with the direction of the weight force acting on the foldable box 120, whereby it increases stability of the foldable shelf 100 in the operative configuration; in particular, in the operative configuration the bracket 110 operates as a cover closing the foldable box 120, and the two end walls 124 and 125 and the two side walls 122 and 123 are advantageously orthogonally coupled to the bracket 110.

**[0051]** It must be understood that other embodiments of the foldable shelf according to the invention may have a coupling linear direction, along which the projecting elements slide in the properly shaped slots, that is opposite to the one illustrated in Figures 9-11 (and in such case the positions of the receiving portion and of the locking portion of each properly shaped slot are reversed with respect to those illustrated in Figures 9-11).

**[0052]** The bracket 110 is also provided with elastic locking elements interacting with the two end walls 124 and 125 so as to make the foldable shelf 100 stably assume its operative configuration. In particular, as shown in detail in Figures 12-15, the bracket 110 is provided, in proximity of each one of the two edges coming into in contact with the two end walls 124 and 125, with respective two teeth 114 and 115 directed towards the inside of the foldable box 120 (when the latter is coupled to the bracket 110, i.e. directed in direction opposite to the wall to which the bracket 110 is attached, whereby the two teeth 114 and 115 are directed towards the inside of the foldable shelf 100 when the latter assumes its own operative configuration) configured to elastically bend towards the outside of the foldable box 120 (when the latter is coupled to the bracket 110, i.e. towards the wall to which the bracket 110 is attached). As shown in detail in Figures 12-14, when the projecting elements 142 and 143 insert and slide in the properly shaped slots 112 and 113 along the coupling linear direction indicated by the arrow S of Figure 9c, i.e. when the foldable box 120 slides on the bracket 110, the end wall 125 comes into contact with the teeth 115, which elastically outwards bend during the passage of the end wall 125 allowing the latter to pass them until it stably assumes its own second angular position corresponding to the operative configuration of the foldable shelf 100, wherein the teeth 114 lock the end wall 124 and consequently avoid any further sliding of the foldable box 120 on the bracket 110 along the coupling linear direction indicated by the arrow S of Figure 9c, while the teeth 115 lock the end wall 125 and consequently avoid any reverse sliding of the foldable box 120 on the bracket 110 along the sliding direction opposite to the coupling linear direction indicated by the arrow S of Figure 9c. Consequently, the foldable shelf 100 stably assumes its operative configuration.

**[0053]** In this regard, the end walls 124 and 125 are advantageously provided with auxiliary locking projecting elements (which may be missing in other embodiments of the foldable box according to the invention), which interacts with corresponding linear edge slots and notches of the bracket 110, which contribute to make the foldable box 120 stably assume its operative configuration of Figure 8 limiting the sliding along the bracket 110. In fact, as particularly shown in Figures 7a, 15 and 16, the end walls 124 and 125 are provided with internal ribs 160 and 161, respectively, the ends of which protrude from the edge of the end wall, 124 or 125, opposite to the edge hinged on the respective ledge, 132 or 133. The projecting ends of the stiffening internal ribs 160 of the end wall 124 are configured to insert into corresponding notches 162 of the bracket 110 positioned along the edge of the latter coming into contact with the end wall 124; the projecting ends of the stiffening internal ribs 161 of the end wall 125 are configured to insert and slide in corresponding linear slots 163 of the bracket 110 positioned in proximity of the edge of the latter coming into contact with the end wall 125, allowing the foldable box 120 to slide on the bracket 110. The interaction of the projecting ends of the stiffening internal ribs 160 of the end wall 124 with the corresponding notches 162 of the

bracket 110 and the interaction of the projecting ends of the stiffening internal ribs 161 of the end wall 125 with the end edges of the corresponding linear slots 163 of the bracket 110 contribute to stably maintain the foldable shelf 100 in its operative configuration, limiting its sliding along the direction indicated by the arrow S of Figure 9c.

**[0054]** It must be understood that for the other embodiments of the foldable shelf according to the invention which have a coupling linear direction along which projecting elements slide in properly shaped slots opposite to the one illustrated in Figures 9-11, the positions of the notches and linear slots of the bracket 110 are reversed, whereby linear slots (similar to those indicated with numeral 163 for the preferred embodiment) are positioned in proximity of the edge of the bracket 110 coming into contact with the end wall 124, and notches (similar to those indicated with numeral 162 for the preferred embodiment) are positioned along the edge of the bracket 110 coming into contact with the end wall 125.

**[0055]** In particular, as shown in the Figures, when the preferred embodiment of the foldable shelf 100 assumes its operative configuration, the bracket 110 is positioned at the back (attached to the wall), the end wall 124 is at the top, the end wall 125 is at the bottom, the side wall 122 is positioned at the left and the side wall 123 is positioned at the right.

**[0056]** Other embodiments of the foldable shelf according to the invention may have the end walls 124 and 125, instead of the side walls 122 and 123, which are provided with projecting elements (similar to those indicated with reference numerals 142 and 143 for the preferred embodiment) in correspondence of the edges opposite to the edges hinged on the respective ledges 132 and 133. In this case, the bracket 110 is provided with properly shaped slots (similar to those indicated with reference numerals 112 and 113 for the preferred embodiment) which are positioned along the edges coming into contact with the end walls 124 and 125, so as to allow such projecting elements to insert and slide in the properly shaped slots until they lock, according to a coupling linear direction orthogonal to the one indicated by the arrow S of Figure 9c; also, the bracket 110 is provided, in proximity of each one of the two edges coming into contact with the two side walls 122 and 123, instead of the end walls 124 and 125, with respective teeth (similar to those indicated with reference numerals 114 and 115 for the preferred embodiment), allowing the foldable shelf 100 to stably assume its operative configuration. Possibly, in such other embodiments of the foldable shelf according to the invention, the two side walls 122 and 123, instead of the end walls 124 and 125, are provided with internal ribs (similar to those indicated with reference numerals 160 and 161 for the preferred embodiment), wherein the projecting ends of the ribs of one of the two side walls 122 and 123 are configured to insert into corresponding notches (similar to those indicated with reference numerals 162 for the preferred embodiment) of the bracket 110 positioned along the edge of the latter coming into contact with such side wall, while the projecting ends of the ribs of the other one of the two side walls 122 and 123 are configured to insert and slide in corresponding linear slots (similar to the one indicated with reference numeral 163 for the preferred embodiment) of the bracket 110 positioned in proximity of the edge of the latter coming into contact with such other side wall, allowing the foldable box 120 to slide on the bracket 110, so that the interaction of the projecting ends of the stiffening internal ribs of the

two side walls with the corresponding end notches and edges of the corresponding linear slots of the bracket 110 contribute to stably maintain the foldable shelf 100 in its operative configuration.

**[0057]** As stated, the foldable box 120 is provided with a front door 190, hinged on the connecting bar 134 (although this is not an essential feature for the invention, and other embodiments of the foldable shelf may have a door hinged on the other connecting bar 135, or two doors each one hinged on one of the two connecting bars 134 and 135 of the supporting frame of the foldable box, or even one door hinged on one of the two ledges 132 and 133 of the supporting frame of the foldable box or two doors respectively hinged on the two ledges 132 and 133, whereby the foldable shelf according to the invention may be provided with one or more doors, each one hinged on one of the two connecting bars 134 and 135 or on one of the two ledges 132 and 133 of the supporting frame). The front door 190 is closable through a lock 191 with lever 192 operated through a key (that can be a master key or specific for the pawl of the lock 191). Also, the front door 190 has a transparent panel 194 permitting to visually check the container 200 and the liquid contained therein (or in any case the inside of the foldable shelf 100).

**[0058]** In this regard, once that the foldable box 120 is mounted on the bracket 110, whereby the foldable shelf 100 stably assumes its operative configuration, all the elastic locking elements, i.e. all the elastically flexible teeth 114, 115, 126 and 127, ensuring maintenance of the foldable shelf 100 in its operative configuration, remain inside the same foldable shelf 100 and they are not accessible from the outside when the front door 190 is closed, whereby the foldable shelf 100 is not dismountable from the outside.

**[0059]** In the preferred embodiment of the foldable shelf according to the invention, the shape of the bracket 110 renders the foldable shelf 100 modular, whereby the latter can be mounted along with other foldable shelves of the same type or devices (e.g. a diluter of concentrated chemical in water or a dosing pump) having similar brackets for wall attachment. In fact, as shown in Figures 16-18, one of the two edges in correspondence of which the bracket 110 is provided with properly shaped slots (in particular, the right edge in correspondence of which the properly shaped slots 113 are placed) is provided with projecting sliders 117, while the opposite edge of the bracket 110 (in particular, the left edge in correspondence of which the properly shaped slots 112 are placed) is provided with projecting hollow guides 116: the projecting sliders 117 of a bracket 110-1 are configured to slide in the projecting hollow guides 116 of a bracket 110-2 (as shown in Figure 16b) until they reach a stop position, so that the two brackets 110-1 and 110-2 are adjacent to each other and mutually coupled (as shown in Figure 17). Also, one of the two edges provided with the teeth 114 and 115 of the bracket 110 (in particular, the upper edge provided with the teeth 114 and notches 160) is provided with recesses provided with projecting discs 118, while the opposite edge of the bracket 110 (in particular, the lower edge provided with the teeth 115) is provided with projecting gripper elements 119: the projecting gripper elements 119 of a bracket 110-2 are configured to receive and lock the projecting discs 118 of the recesses of a bracket 110-3, so that the two brackets 110-2 and 110-3 are adjacent to each other and mutually coupled (as shown in Figure 18). In

particular, thanks to the fact that the projecting discs 118 are within recesses of the respective edge causes, when the two brackets 110-2 and 110-3 are coupled to each other, that there is no unused space between them (i.e. the respective edges are in contact with each other). However, it must be noted that further embodiments of the foldable shelf according to the invention may have the bracket deprived of said recesses, whereby the projecting discs 118 are outside the respective edge of the same bracket 110.

**[0060]** Other embodiments of the foldable shelf according to the invention may have the projecting sliders and the respective projecting hollow guides which are differently positioned on the edges of the brackets with respect to the arrangement shown in the Figures (e.g. by reversing the edges), and/or that the projecting gripper elements and the respective projecting discs are differently positioned on the edges of the brackets with respect to the arrangement shown in the Figures (e.g. by reversing the edges). Further embodiments of the foldable shelf according to the invention may have only one type of reciprocal coupling between brackets selected out of the projecting slider-projecting hollow guide assembly and the projecting gripper element-projecting disc assembly.

**[0061]** Furthermore, as shown in Figure 19, it is also possible to mount stroke limiting elements 150 to the (lower) end of the projecting hollow guides 116 (or even at an intermediate position of the projecting hollow guides 116) to allow the correct mounting of brackets even different from the brackets 110, such as for instance brackets 400 for diluting apparatuses also provided with projecting sliders 117' (and possibly with projecting hollow guides 116') similar to those of the bracket 110 and, consequently, configured to slide in the projecting hollow guides 116 of a bracket 110. In this case, the stroke limiting elements 150 limit the stroke of the projecting sliders 117' into the projecting hollow guides 116.

**[0062]** By way of example, as shown in Figure 20, the foldable shelf 100 may be also coupled to a dispensing apparatus 500 mounted on a bracket 510 provided at the upper edge (configured to be positioned in proximity of the lower edge of the bracket 110 of the foldable shelf 100) with projecting discs 118' similar to the projecting discs 118 of the bracket 110 of the foldable shelf 100, whereby the projecting gripper elements 119 of the latter are configured to receive and lock the projecting discs 118' of the bracket 510 of the dispensing apparatus 500; also, the bracket 510 of the dispensing apparatus 500 is advantageously provided at the lower edge with projecting gripper elements 119' similar to the projecting gripper elements 119 of the bracket 110 of the foldable shelf 100, whereby the projecting gripper elements 119' of the former are configured to receive and lock the projecting discs 118 of the latter (e.g., to couple to a further foldable shelf 100) or to receive and lock similar projecting discs of a bracket supporting other components or devices, such as for instance a drip collection tray that serves in the case of filling a bottle. The dispensing apparatus 500 is provided with a mechanically operated pump 520, through an operation button 530, the inlet duct 540 of which is inserted into the container placed in the foldable shelf 100 and containing the liquid to dispense (e.g. soap). In particular, the two side walls 122 and 123 are provided with first portions 144 and 145, respectively, and second portions 146 and 147 (having area smaller than that of the first portions 144 and 145), respectively, which are delimited by cut-out lines, whereby they are

easily removable with a simple tool (e.g. a screwdriver); similarly, the two end walls 124 and 125 are provided with third portions 148 and 149 (having area equal to that of the second portions 146 and 147), respectively, also delimited by cut-out lines which render their removal easy. In particular, number, shape and area of the removable portions are not essential features for the invention. Therefore, by removing one of the removable portions 149 of the bottom end wall 125 of the foldable shelf 100, it is possible to insert the inlet duct 540 of the pump 520 into the container placed in the foldable shelf 100. Figure 20c

**[0063]** Still by way of example, as shown in Figure 21, the foldable shelf 100 may be also coupled to a diluting apparatus 600, or alternatively to a dosing pump, (mounted on a bracket provided with projecting hollow guides 116', projecting sliders 117', projecting discs 118' and gripper elements 119' similar to those of the bracket 110 of the foldable shelf 100), the ducts of which are inserted into the foldable shelf 100 through the spaces created on the two side walls by removing one or more removable portions of at least one of these.

**[0064]** It is evident that the foldable shelf 100 is arranged to be mounted with other foldable shelves or with other components virtually in infinite combinations, ensuring the flexibility necessary to solve most problems of actual installations raising when the installation spaces are awkward and/or limited, obtaining compact and simple combinations. In particular, the coupling among the brackets 110 of various foldable shelves (and with brackets of other components, such as for instance diluters, dispensers and dosing pumps) allows to facilitate installation, simultaneously decreasing the number of wall plugs needed to attach the combination to a wall.

**[0065]** The preferred embodiments of this invention have been described and a number of variations have been suggested hereinbefore, but it should be understood that those skilled in the art can make other variations and changes without so departing from the scope of protection thereof, as defined by the attached claims.

## Patentkrav

1. Foldbar hylde (100) til opbevaring af genstande, navnlig til opbevaring af væskebeholdere, der omfatter et beslag (110) udformet til at blive fastgjort til en væg og en foldbar kasse (120) indbefattende en bærende ramme, der omfatter to lister (132, 133), som er  
5 parallelle med hinanden og integralt forbundet med hinanden via to forbindelsesstænger (134, 135), hvor den foldbare kasse (120) endvidere omfatter et par første vægge (122, 123) og et par anden vægge (124, 125), hvor hver af de første vægge (122, 123) er hængslet langs en første kant til en tilsvarende stang af de to forbindelsesstænger (134, 135), hvorved hver af de første vægge (122, 123) er udformet til at antage en vinkelposition, der ligger i et interval fra en  
10 første endevinkelposition, hvor en anden kant af den første væg modsat den første kant er ved en minimal afstand fra de to lister (132, 133), til en anden endevinkelposition, hvor den anden kant er ved en maksimal afstand fra de to lister (132, 133), hvor hver af de anden vægge (124, 125) er hængslet langs en første kant til en tilsvarende liste ud af de to lister (132, 133), hvorved hver af de anden vægge (124, 125) er udformet til at antage en vinkelposition, der  
15 ligger i et interval fra en første endevinkelposition, hvor en anden kant af den anden væg modsat den første kant er ved en maksimal afstand fra de to forbindelsesstænger (134, 135), til en anden endevinkelposition, hvor den anden kant er ved en maksimal afstand fra de to forbindelsesstænger (134, 135), hvor den foldbare kasse (120) er udformet til at antage en fuldt foldet udformning, hvor den første og den anden væg (122, 123, 124, 125) er ved deres  
20 tilsvarende første endevinkelpositioner, og en anvendelsesudformning, hvor de første og anden vægge (122, 123, 124, 125) er ved de tilsvarende anden endevinkelpositioner, hvor de første og anden vægge (122, 123, 124, 125) henholdsvis er forsynet med første og anden mekaniske stabiliserende elementer (126, 127, 128A, 128B, 129A, 129B) udformet til at gensidigt at interagere med hinanden for at bevirke, at den første og den anden væg (122, 123, 124, 125)  
25 stabilt bevarer deres tilsvarende anden endevinkelpositioner, hvor et første vægpar udvalgt fra parret af første vægge (122, 123) og parret af anden vægge (124, 125) er forsynet med fremstående elementer (142, 143) udformet til at glide, når den foldbare kasse (120) antager sin anvendelsesudformning, i tilsvarende spalter (112, 113) af beslaget (110) langs en lineær koblingsretning (S), indtil de når en låseposition, hvor den foldbare kasse (120) stabilt  
30 fastgøres til beslaget (110) og den foldbare hylde (100) antager en anvendelsesudformning, **kendetegnet ved, at** beslaget (110) er udstyret med elastiske låseelementer (114, 115) udformet til at interagere med det andet vægpar udvalgt fra parret af første vægge (122, 123) og parret af anden vægge (124, 125) til at bevirke, at den foldbare hylde (100) stabilt antager sin anvendelsesudformning.

2. Foldbar hylde (100) ifølge krav 1, hvor den bærende ramme er udstyret med mindst én dør (190) hængslet til én ud af to forbindelsesstænger (134, 135) eller til én ud af de to lister (132, 133), hvor den mindst ene dør er udformet til at antage en lukket udformning, hvor den foldbare hylde (100), når den antager sin anvendelsesudformning, er lukket.
3. Foldbar hylde (100) ifølge krav 2, hvor den mindst ene dør (190) er udstyret med en lås udformet til at låse den mindst ene dør (190) i dens lukkede udformning.
4. Foldbar hylde (100) ifølge krav 2 eller 3, hvor den mindst ene dør (190) er udstyret med et transparent panel (194).
5. Foldbar hylde (100) ifølge et hvilket som helst af krav 2 til 4, hvor, når den foldbare hylde (100) antager en anvendelsesudformning og er lukket, mindst en del af det første og det andet mekaniske stabiliserende elementer (126, 127, 128A, 128B, 129A, 129B) og mindst en del af de elastiske låseelementer (114, 115) er utilgængelige udefra.
6. Foldbar hylde (100) ifølge et hvilket som helst af krav 1 til 5, hvor det første vægpar består af parret af første vægge (122, 123) og det andet vægpar består af parret af anden vægge (124, 125).
7. Foldbar hylde (100) ifølge krav 6, hvor de første mekaniske stabiliserende elementer omfatter:
- én tand eller flere, eventuelt to eller flere, tænder (126, 127), med hvilke hver ene af de første vægge (122, 123) er forsynet i nærheden af hver ene af to vinkler modsat den første kant af den tilsvarende første væg (122; 123), hvor den ene tand eller flere tænder (126, 127) er rettet mod indersiden af den foldbare hylde (100), når sidstnævnte antager sin anvendelsesudformning og udformet til elastisk at bøje mod ydersiden af den bærende ramme af den foldbare kasse (120), og
  - en flerhed af justeringsstifter (128A, 129A), med hvilke hver ene af de første vægge (122, 123) er forsynet langs to tilsvarende tredje kanter (130A, 131A), der samler de første og anden kanter af den tilsvarende første væg (122, 123), hvor justeringsstifterne (128A, 129A) er rettet mod indersiden af den foldbare hylde (100), når sidstnævnte antager sin anvendelsesudformning,

og hvor de anden mekaniske stabiliserende elementer omfatter:

- en flerhed af spalter (128B, 129B), med hvilke hver af de anden vægge (124, 125) er forsynet langs to tilsvarende tredje kanter (130B, 131B), der samler den første og anden kant af den tilsvarende anden væg (124, 125),

5 hvor, når den foldbare kasse (120) antager anvendelsesudformningen, de to tredje kanter (130A, 131A) af hver ene af de første vægge (122, 123) er udformet til komme i kontakt med tilsvarende tredje kanter (130B, 131B) af parret af anden vægge (124, 125), således at de tilsvarende justeringsstifter (128A, 129A) indføres i tilsvarende spalter (128B, 129B) af det to tilsvarende tredje kanter (130B, 131B) af de anden vægge (122, 123), og den ene tand eller  
10 flere tænder (126, 127), med hvilke hver ene af de første vægge (122, 123) er forsynet, er udformet til antage en hvileposition, hvor de interagerer med de tilsvarende tredje kanter (130B, 131B), hvorved den ene tand eller flere tænder (126, 127) er udformet til låse de anden vægge (124, 125) i de tilsvarende anden endevinkelpositioner.

15 **8.** Foldbar hylde (100) ifølge krav 6 eller 7, hvor de fremstående elementer (142, 143) er placeret i forbindelse med de anden kanter af hver af de anden vægge (124, 125), og hvor hver én af de tilsvarende spalter (112, 113) af beslaget (110) omfatter en modtagende del (113A) og en låsedel (113B), hvor den modtagende del (113A) har en bredde større end en bredde af låsepositionen (113B), hvor hvert ene af de fremstående elementer (142, 143) har en plan ende  
20 (143A), med en bredde større end bredden af låsepositionen (113B), der er udformet til indføring i den modtagende del (113A) og til at bevirke, at det fremstående element (142; 143) glider fra den modtagende del (113A) til låsepositionen (113B), hvor den plane ende (143A) er udformet til at interagere med låsepositionen (113B) for at bevirke, at det fremstående element (142; 143) låses stabilt i den tilsvarende spalte (112; 113).

25 **9.** Foldbar hylde (100) ifølge et hvilket som helst af krav 6 til 8, hvor de elastiske låseelementer (114, 115) omfatter mindst et tandpar (114; 115) placeret langs hver ene af to kanter af beslaget (110) udformet til at komme i kontakt med de anden vægge (124, 125), når den foldbare hylde (100) antager sin anvendelsesudformning, hvor det mindst ene tandpar (114; 115) er rettet mod indersiden af den foldbare hylde (100), når sidstnævnte antager sin anvendelsesudformning, hvor mindst ét tandpar (114; 115) er udformet til elastisk at bøje mod ydersiden af den foldbare hylde (100), når sidstnævnte antager sin anvendelsesudformning, hvor det mindst ene tandpar (114; 115) er udformet til antage en hvileposition, hvor de  
30 interagerer med de anden vægge (124, 125), hvorved det mindst en tandpar (114; 115) er

udformet til at forhindre, at de anden vægge gensidigt glider i forhold til beslaget (110) langs den lineære koblingsretning (S) og en retning modsat den lineære koblingsretning (S), når den foldbare hylde (100) antager sin anvendelsesudformning.

5 **10.** Foldbar hylde (100) ifølge et hvilket som helst af krav 6 til 9, hvor de anden vægge (124, 125) er forsynet med ribber (160, 161) med fremstående ender, der rager frem fra de anden kanter af de anden vægge (124, 125), hvilke fremstående ender af ribberne (160) af én ud af de anden vægge (124) er udformet til indføring i tilsvarende kantindskæringer (162) af beslaget (110), og hvor de fremstående ender af ribberne (161) af den anden ene ud af de anden  
10 vægge (125) er udformet til indføring og glidning i tilsvarende lineære spalter (163) af beslaget (110), indtil de kommer i kontakt med ender af de tilsvarende lineære spalter (163), hvorved de tilsvarende kantindskæringer (162) og enderne af de tilsvarende lineære spalter (163) af beslaget (110) er udformet til at forhindre de fremstående ender af ribberne (160, 161) af de  
15 anden vægge (124, 125) i at glide i forhold til beslaget (110) langs den lineære koblingsretning (S), når den foldbare hylde (100) antager sin egen anvendelsesudformning.

**11.** Foldbar hylde (100) ifølge et hvilket som helst af de foregående krav, hvor én eller flere vægge ud af de første vægge (122, 123) og de anden vægge (124, 125) er forsynet med én eller flere aftagelige dele (144, 145, 146, 147) afgrænset af udskæringslinjer.

20 **12.** Foldbar hylde (100) ifølge et hvilket som helst af de foregående krav, hvor beslaget (110) er udstyret med:

- én eller flere fremstående glidere (117) og
- én eller flere fremstående hule føringer (116),

25 hvor den ene eller flere fremstående glidere (117) og den ene eller flere fremstående hule føringer (116) er anbragt langs mindst to kanter af beslaget (110) modsat hinanden, hvor hver fremstående glider (117) er udformet til indføring i en hul føring identisk med én af den ene eller flere fremstående hule føringer (116), indtil der nås en stopposition, hvorved beslaget (110) er udformet til at blive monteret modulmæssigt på ét eller flere eksterne beslag forsynet  
30 med mindst én slider identisk med én af den ene eller flere fremstående glidere (117) og/eller med mindst én hul føring identisk med én af den ene eller flere fremstående hule føringer (116).

**13.** Foldbar hylde (100) ifølge krav 12, der endvidere omfatter mindst ét slag

begrænsningsselement (150) udformet til at blive monteret på én af den ene eller flere fremstående hule føringer (116) og til at begrænse et slag af en glider identisk med én af den ene eller flere fremstående glidere (117).

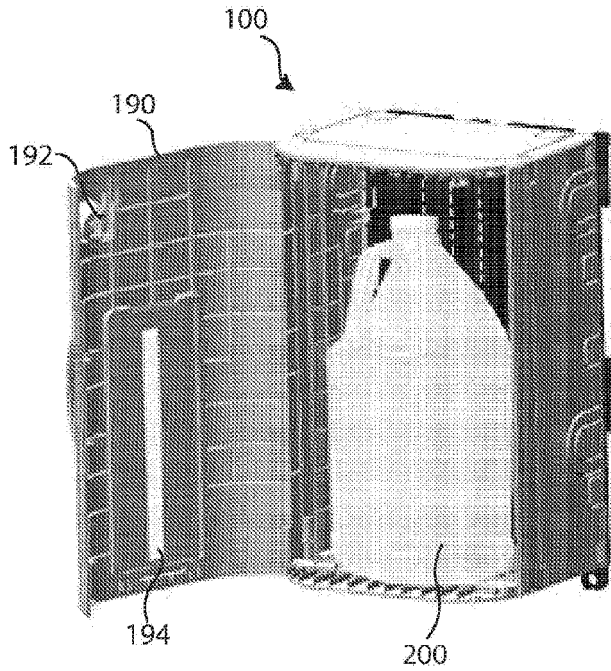
5 **14.** Foldbar hylde (100) ifølge et hvilket som helst af de foregående krav, hvor beslaget (110) er udstyret med:

- én eller flere fremstående skiver (118) og
- én eller flere fremstående gribelementer (119),

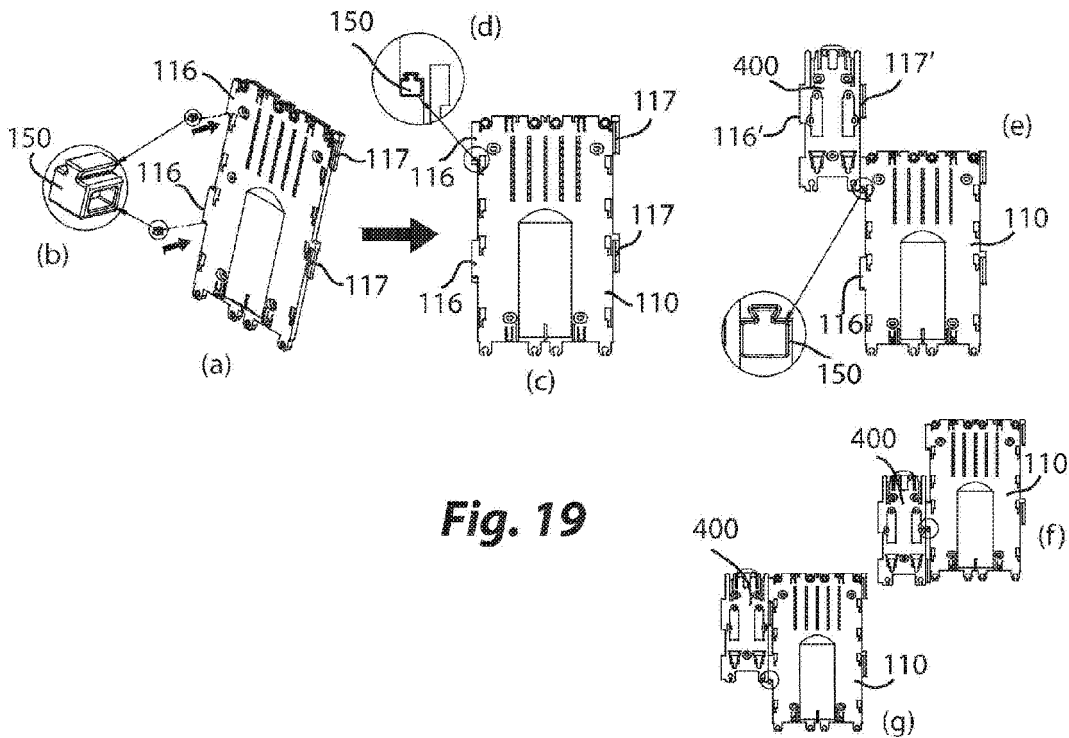
10 hvor den ene eller flere fremstående skiver (118) og det ene eller flere fremstående gribelementer (119) er anbragt langs mindst to kanter af beslaget (110) modsat hinanden, hvor hvert fremstående gribelement (119) er udformet til at modtage og låse en skive identisk med én af den ene eller flere fremstående skiver (118), hvorved beslaget (110) er udformet til at blive monteret modulmæssigt på ét eller flere eksterne beslag forsynet med mindst én skive  
15 gribelement identisk med ét af det ene eller flere fremstående gribelementer (119), hvor den ene eller flere fremstående skiver (118) eventuelt er placeret i tilsvarende kantindskæringer af beslaget (110).

**15.** Foldbar hylde (100) ifølge et hvilket som helst af de foregående krav, hvor mindst én  
20 ud af beslaget (110) og den foldbare kasse (120) er fremstillet af plastmateriale.

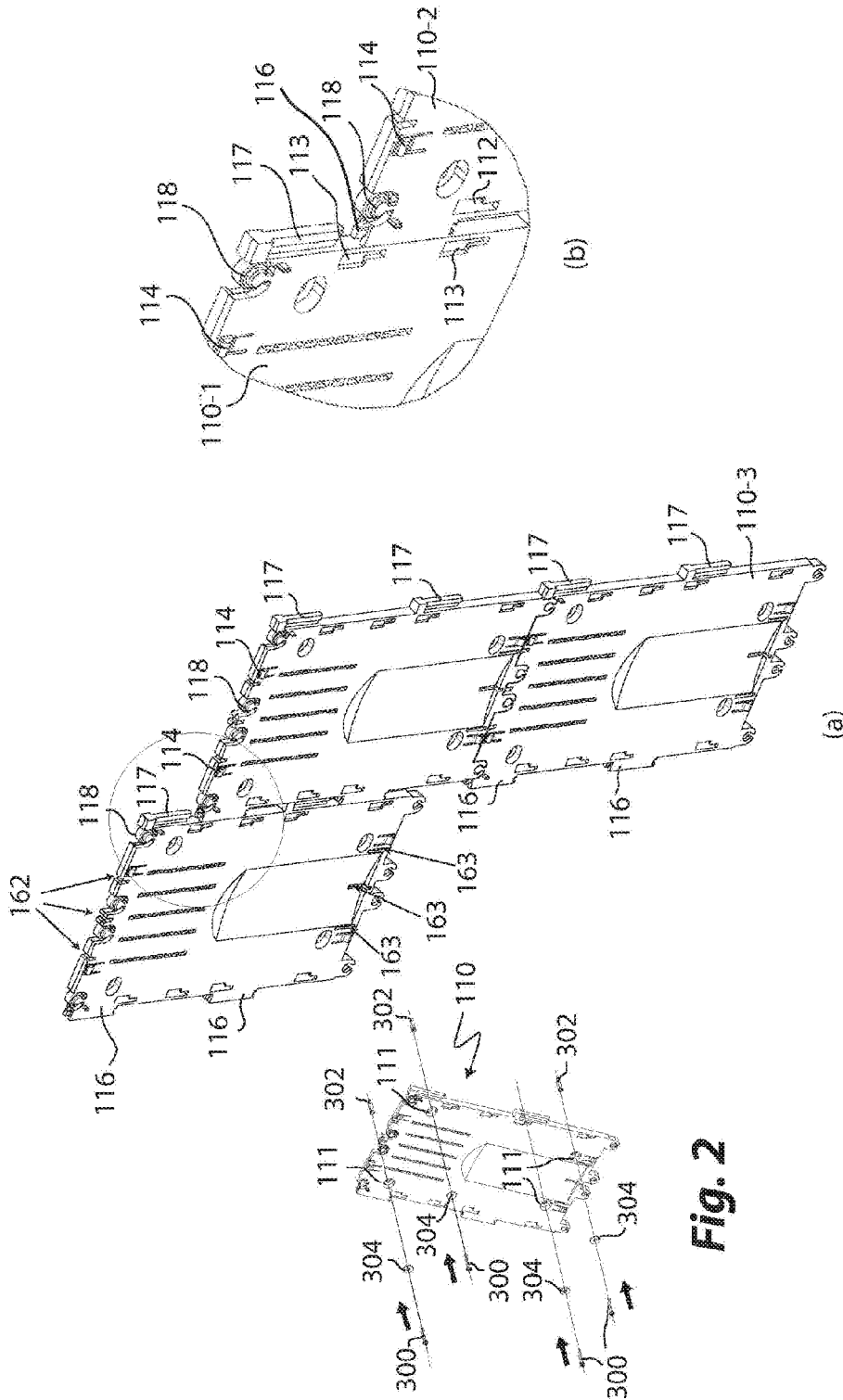
**DRAWINGS**



**Fig. 1**

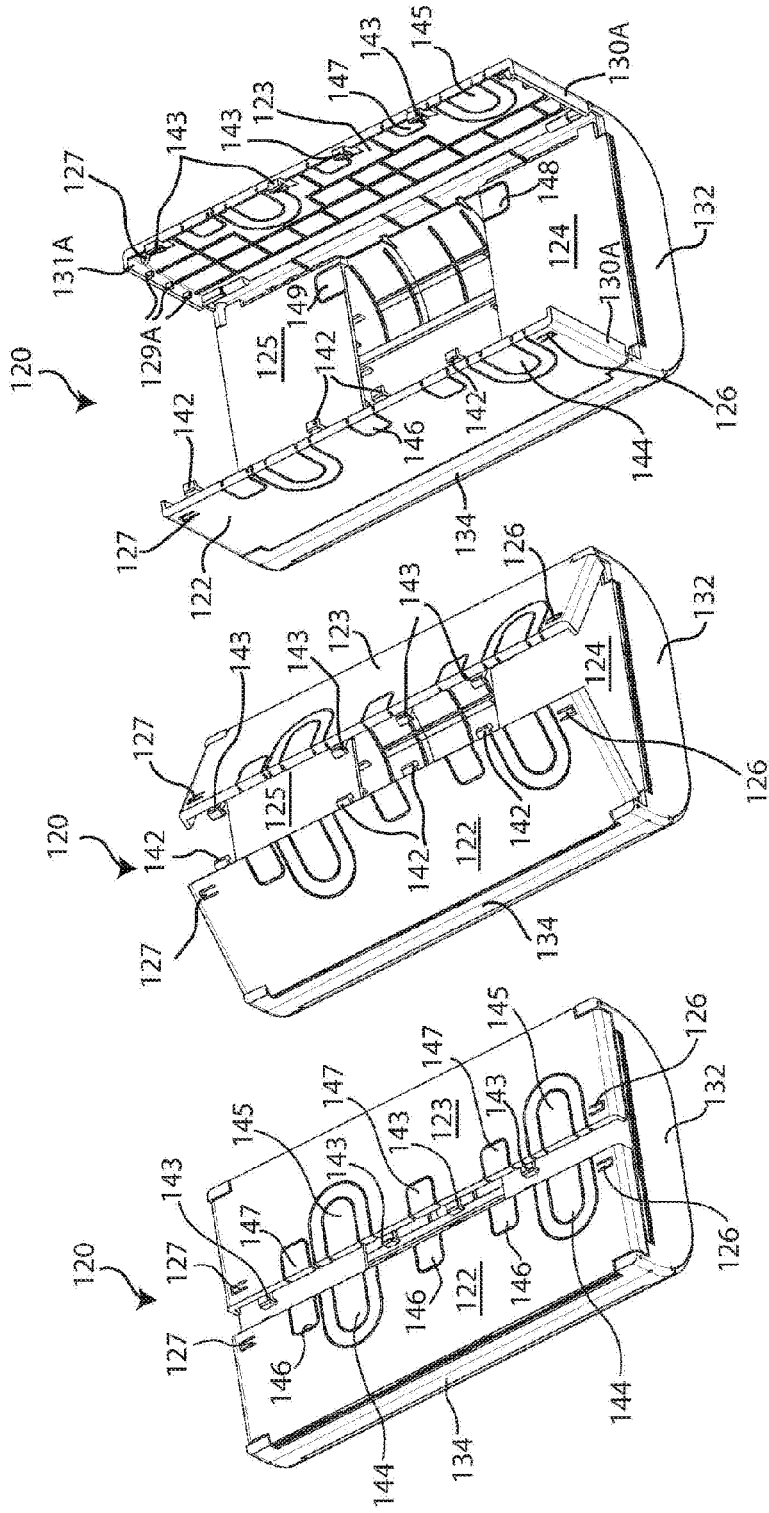


**Fig. 19**



**Fig. 2**

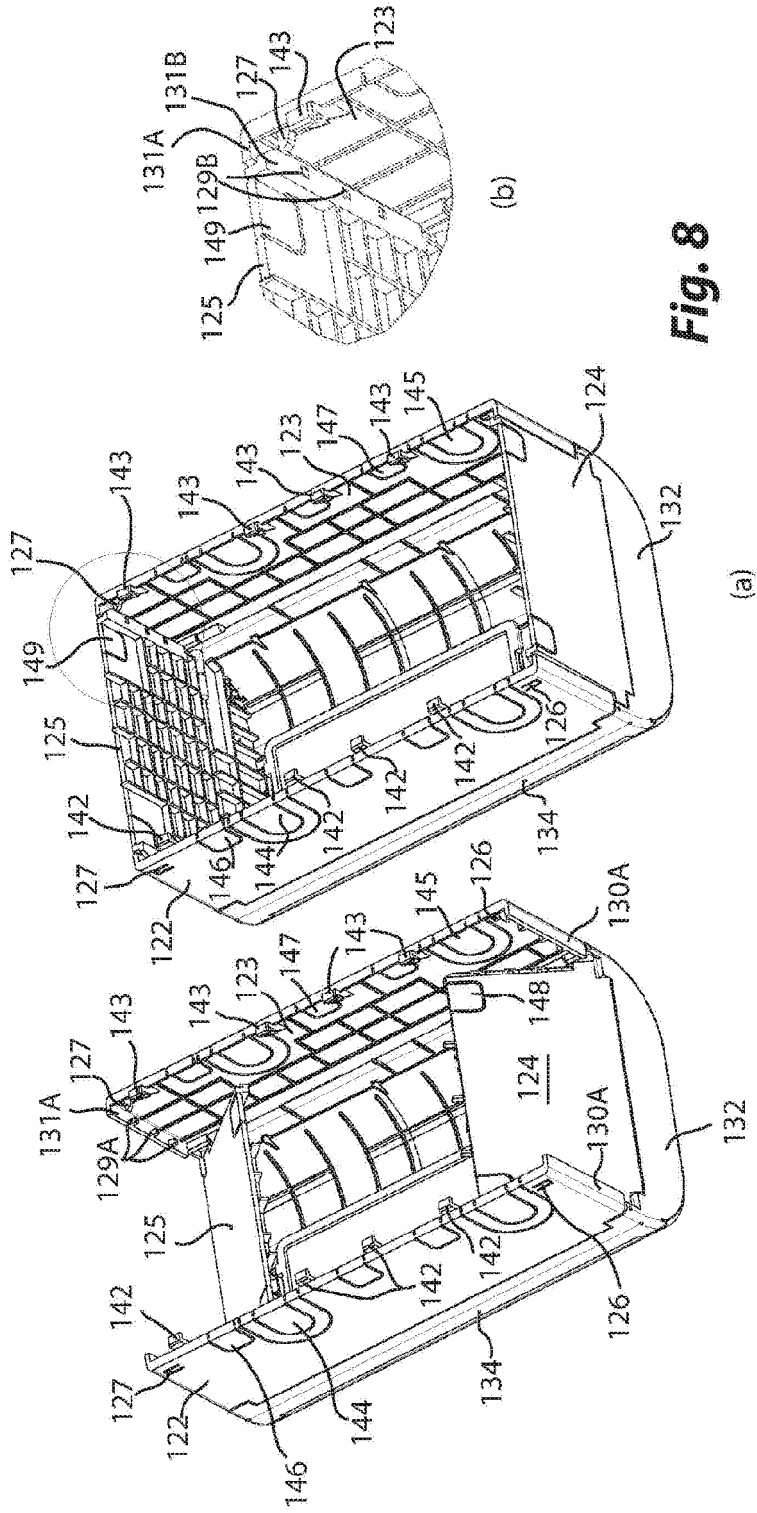
**Fig. 16**



**Fig. 3**

**Fig. 4**

**Fig. 5**



**Fig. 8**

**Fig. 6**

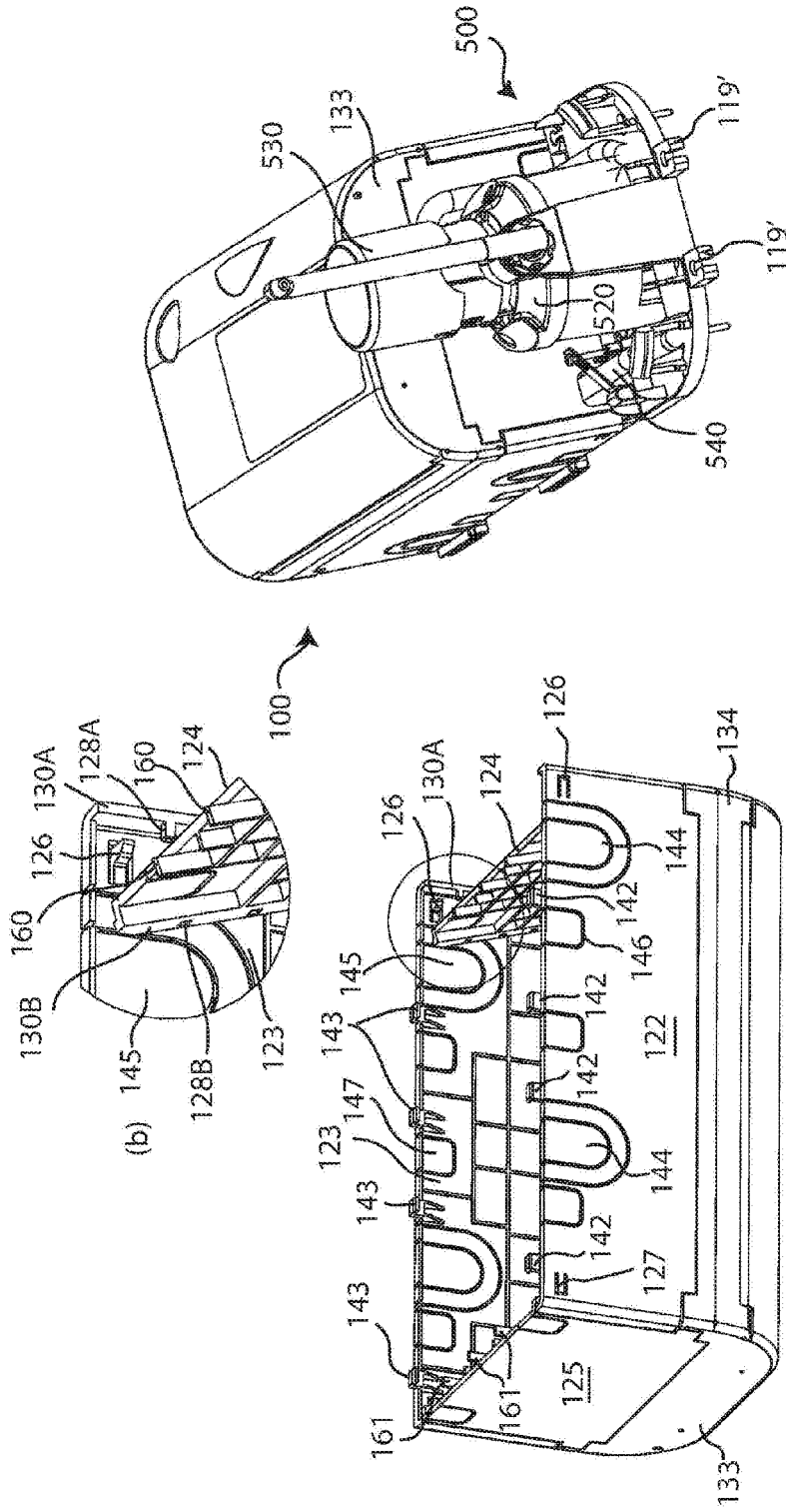


Fig. 20C

Fig. 7

(a)

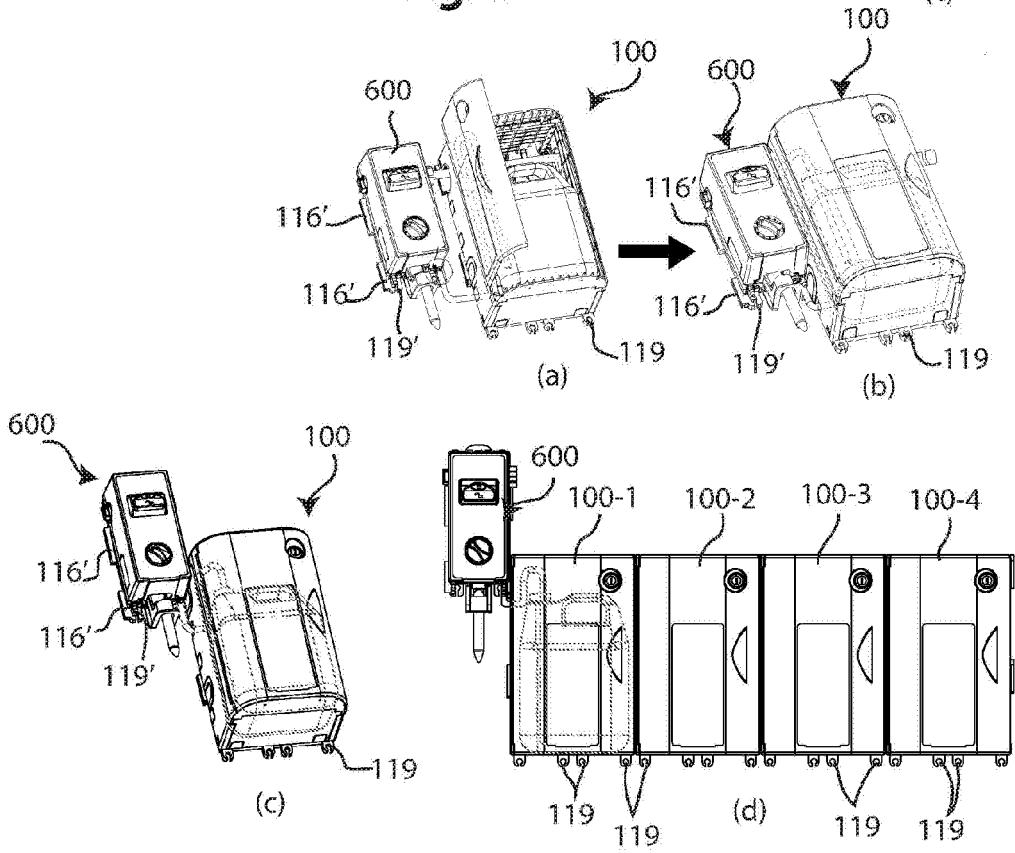
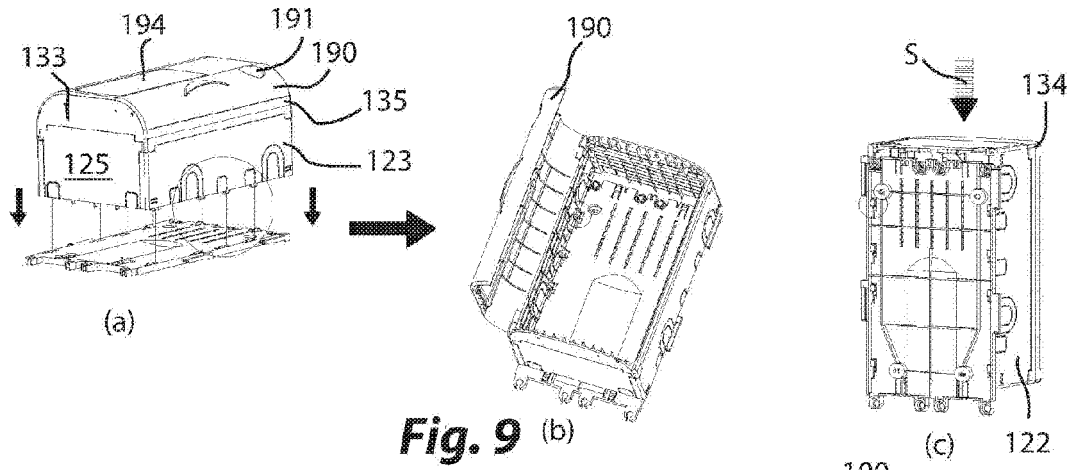
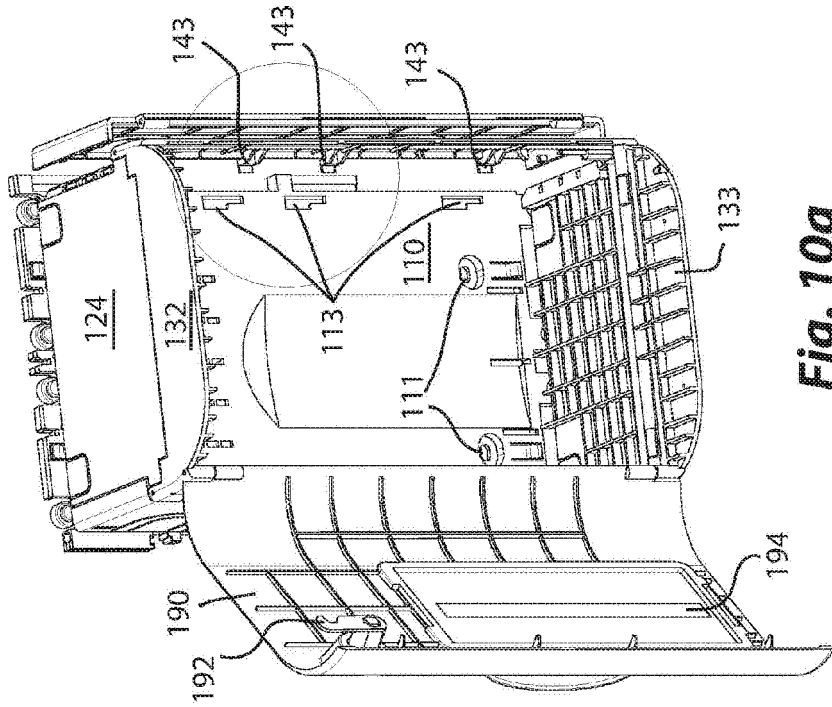
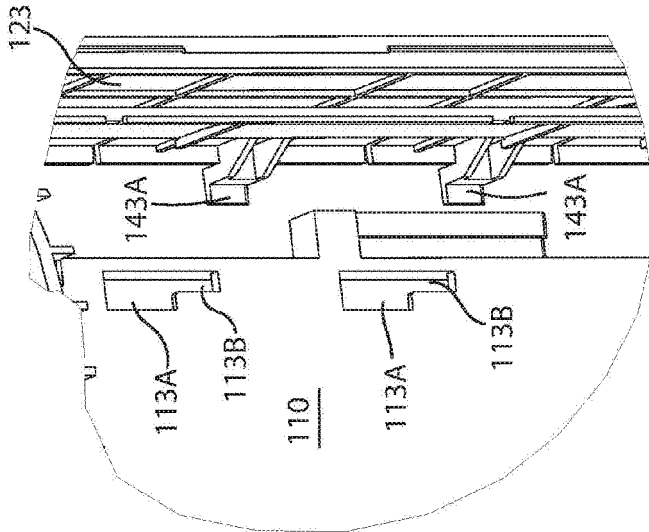


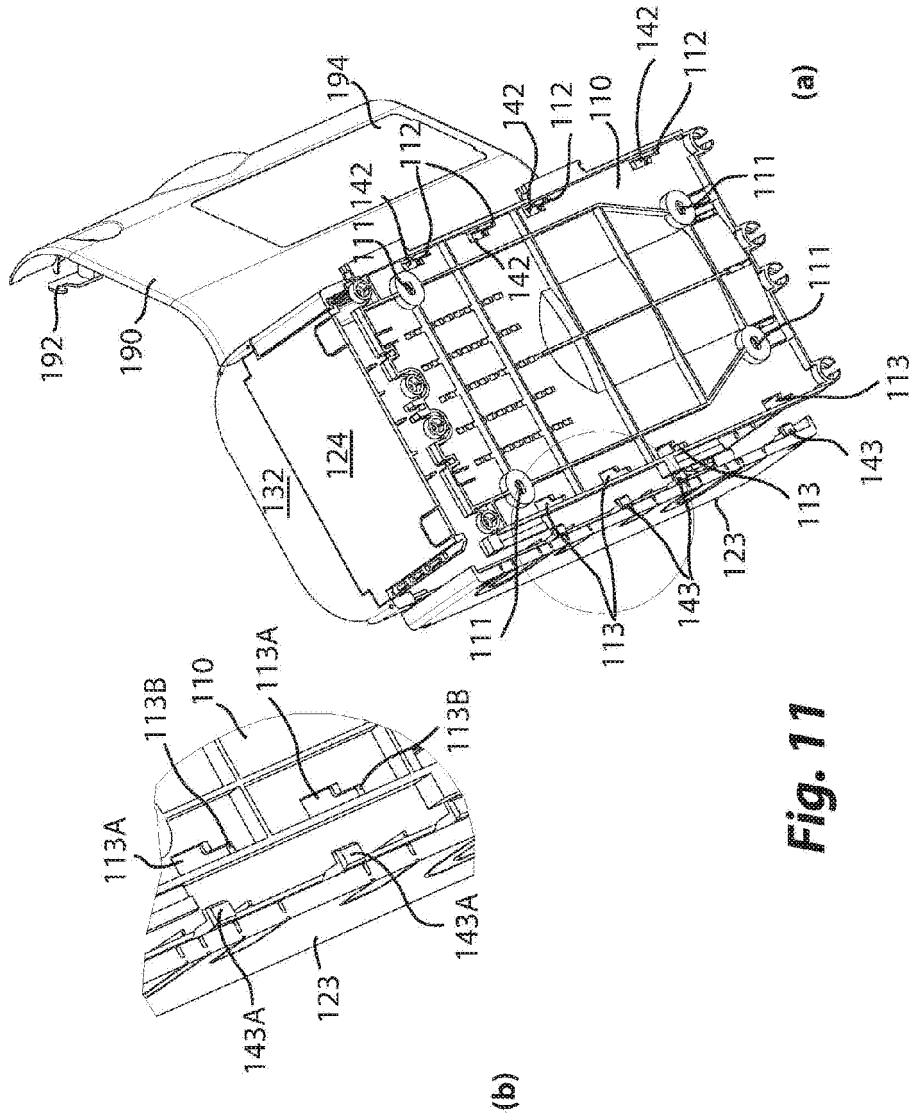
Fig. 21



**Fig. 10a**



**Fig. 10b**



**Fig. 11**

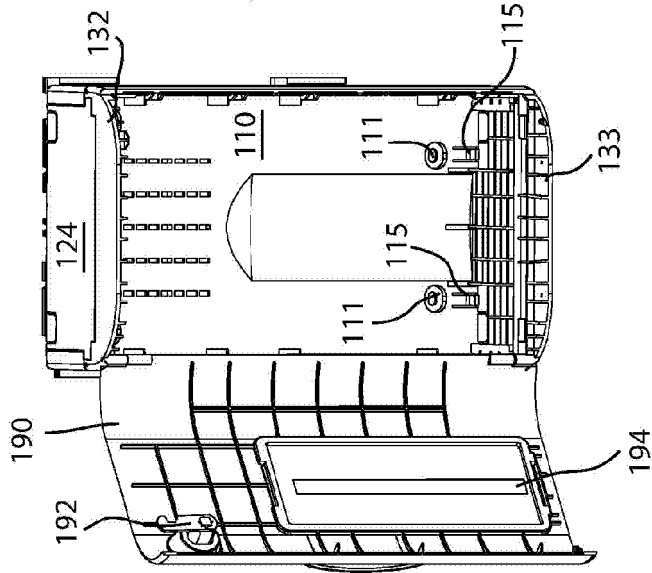


Fig. 12

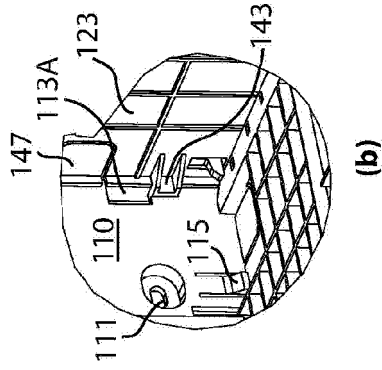
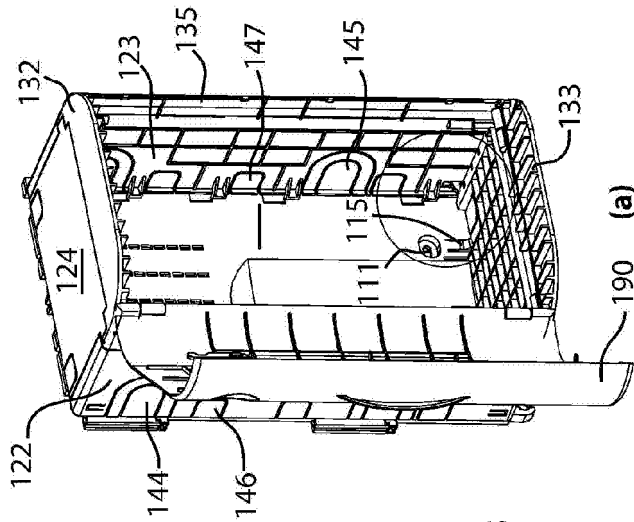


Fig. 13

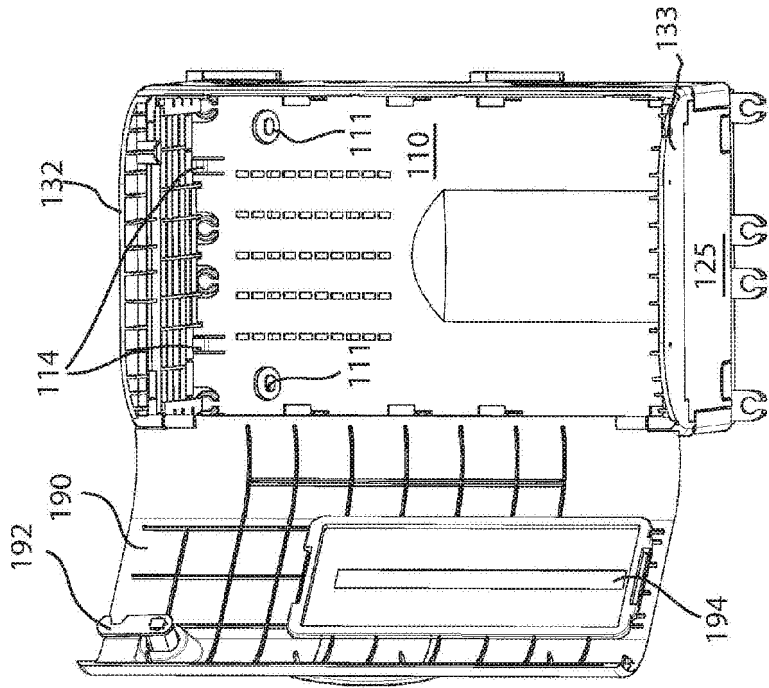


Fig. 14

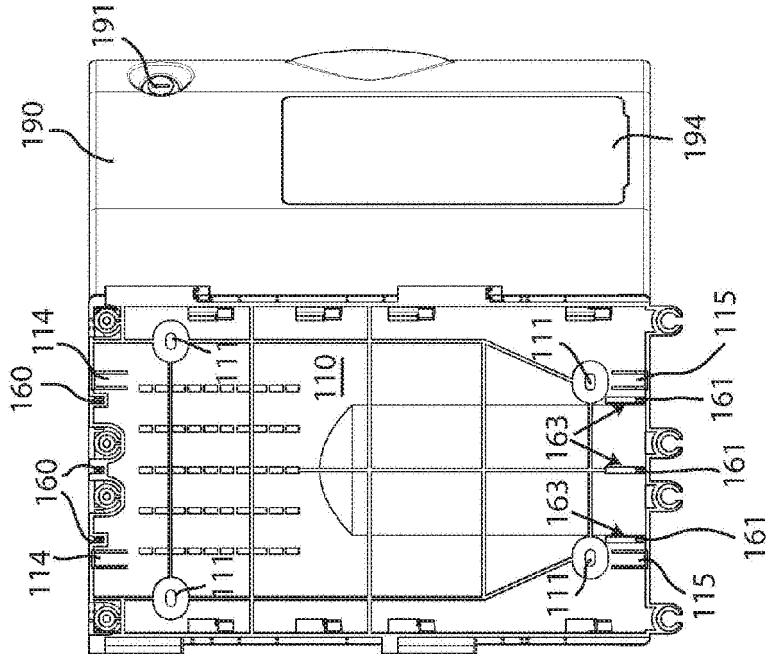


Fig. 15

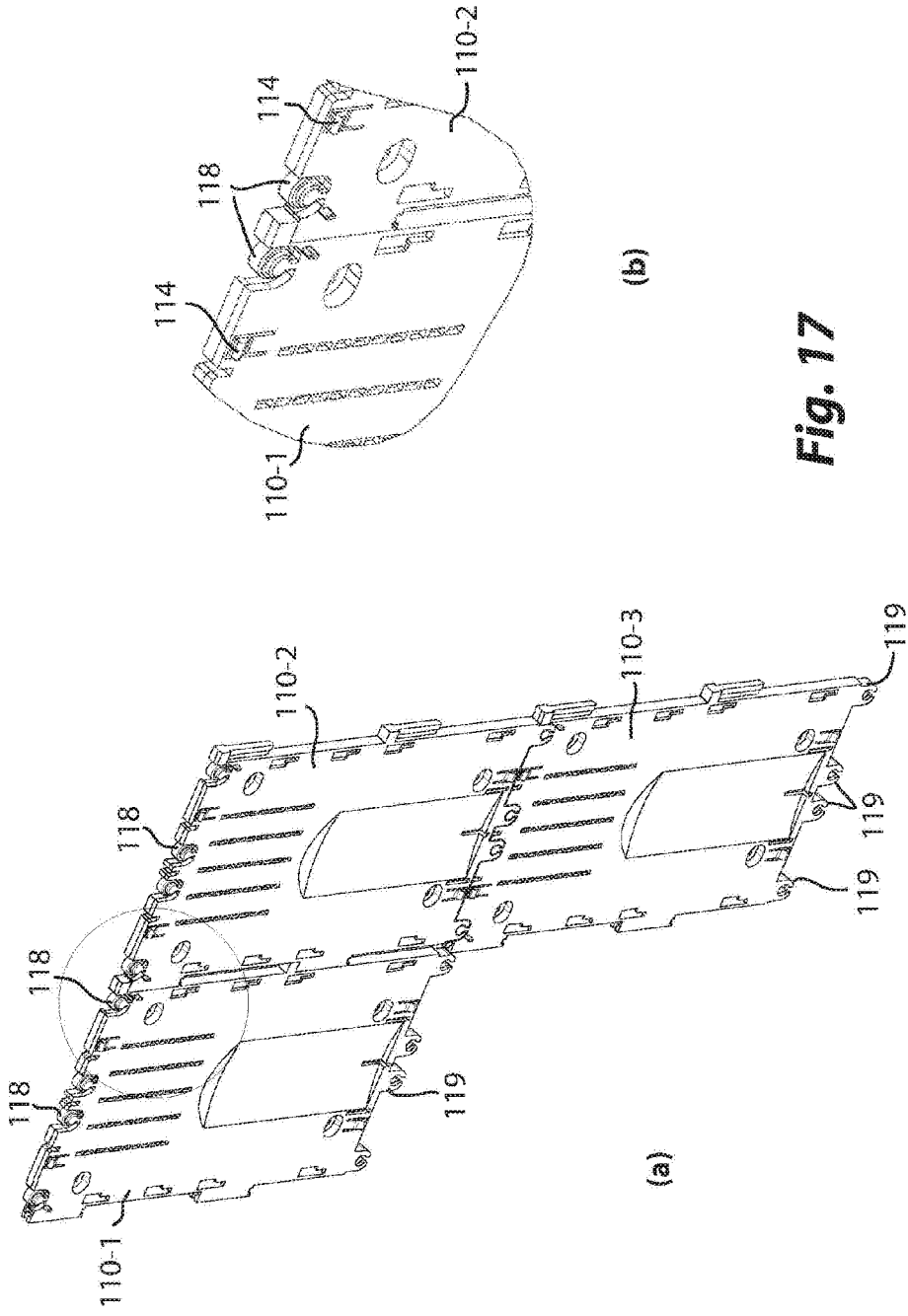


Fig. 17

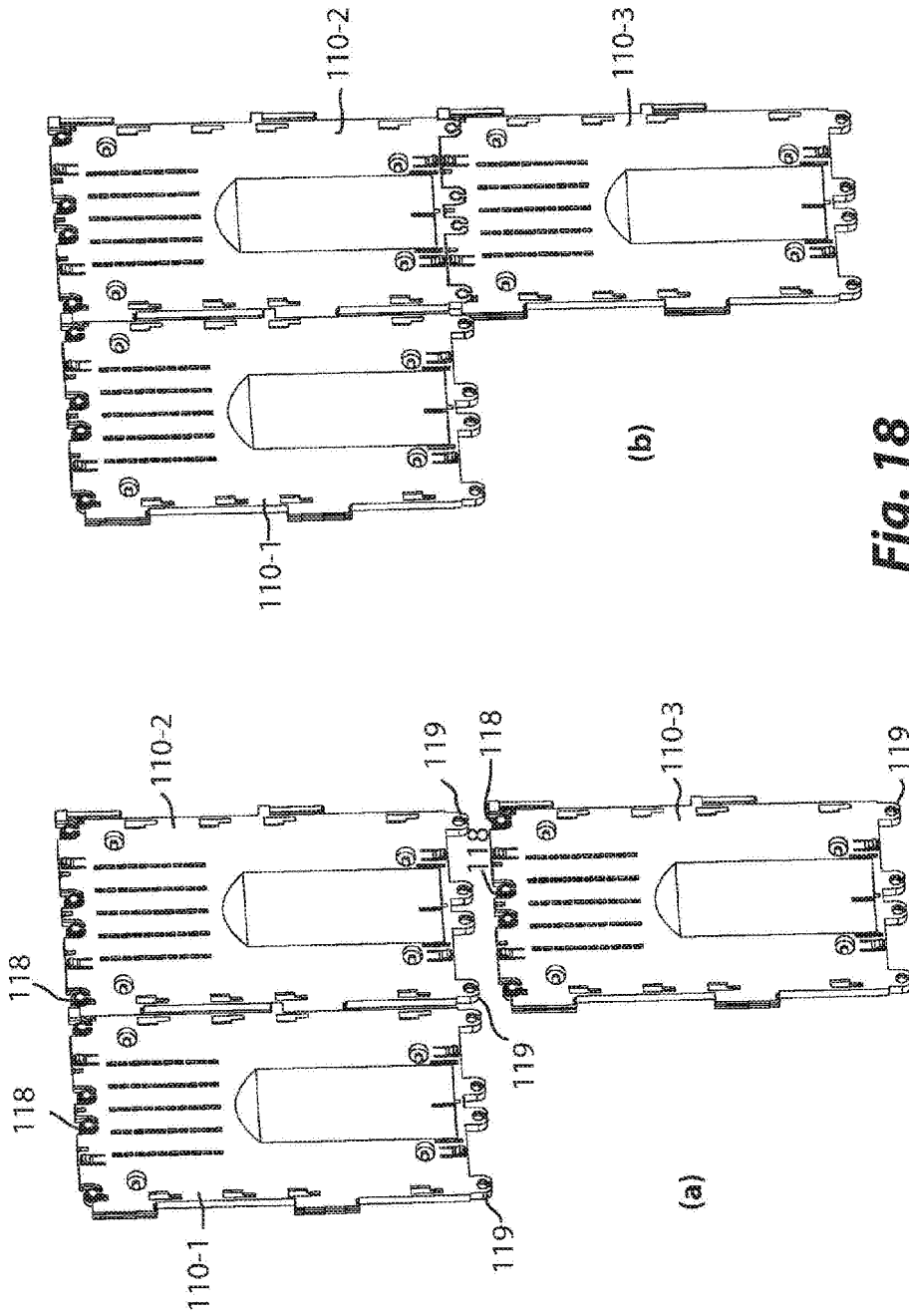


Fig. 18

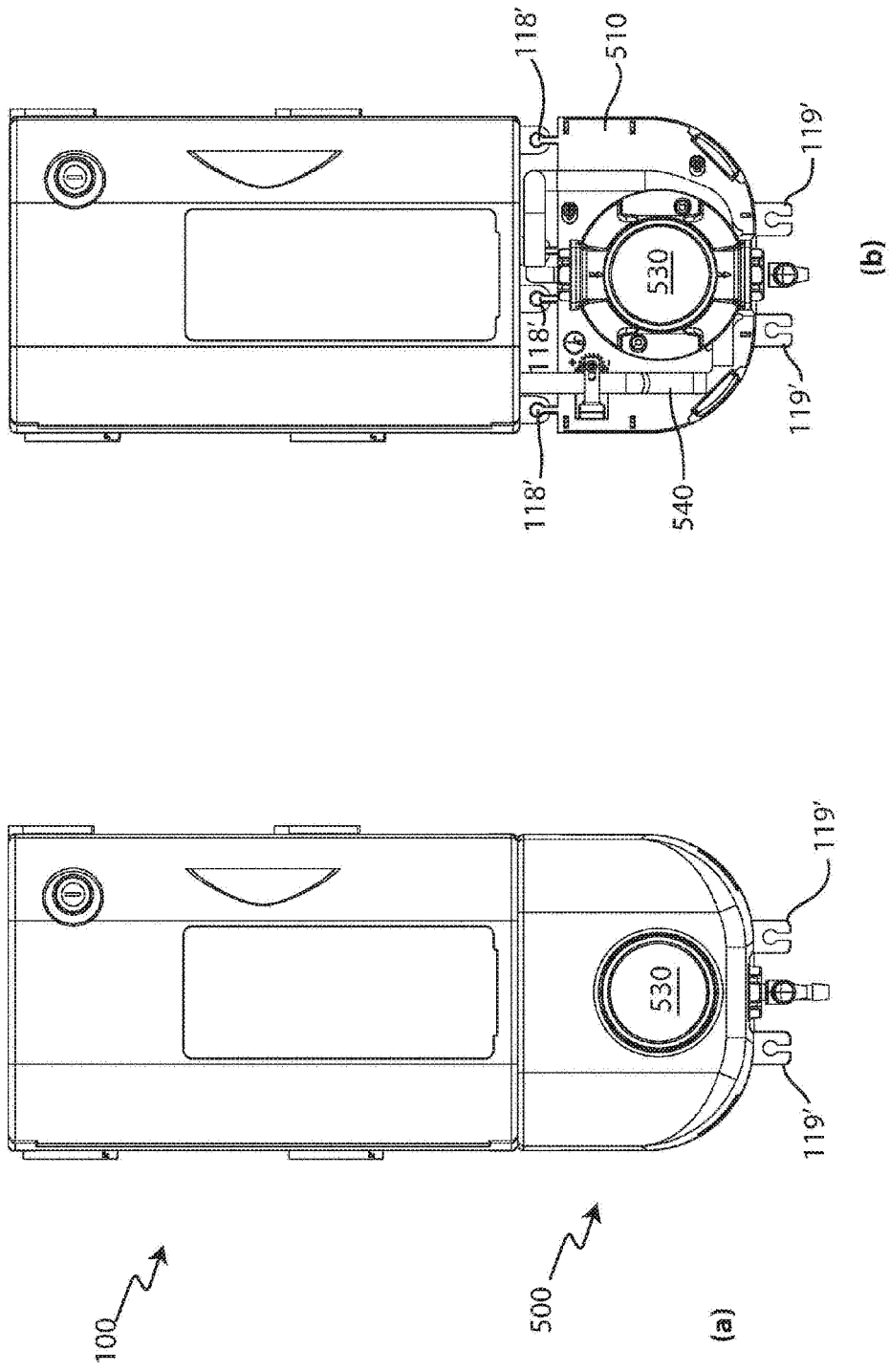


Fig. 20