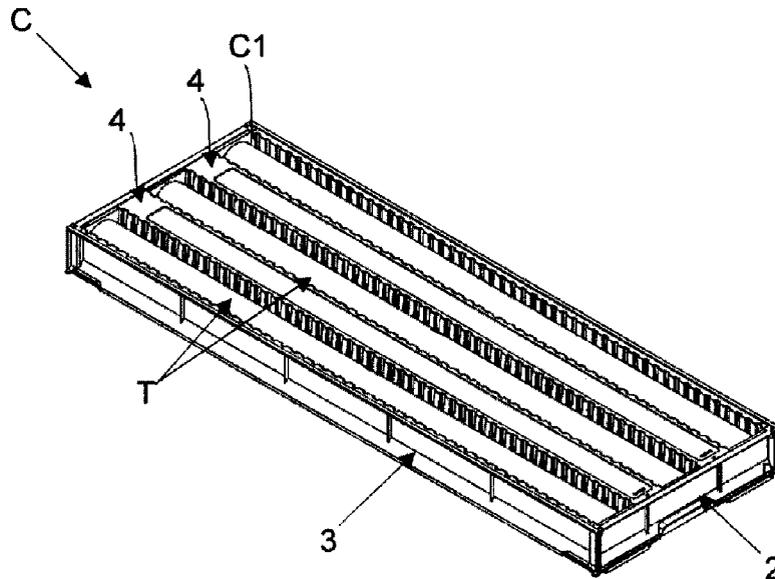




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(54) Title: INTERCHANGEABLE DISMOUNTABLE HINGED BOX FOR STORING CORE SAMPLES



(57) **Abrégé/Abstract:**

This invention describes an interchangeable dismountable hinged box (C) for storing core samples, particularly used in the field of the collection of mineral materials, deriving from geological exploration activities, for subsequent analysis. The invention reveals a box (C) comprising modular walls (2 and 3) that can be fitted interchangeably with a base (1), allowing for the hinging of these walls (2 and 3) between a parallel position and a position perpendicular to the base (1). The box (C) comprises at least one storage compartment (C1) for core samples (T) defined between two modular transversal walls (2) and two modular longitudinal walls (3), and may comprise additional storage compartments (C1), obtained by interlocking interchangeable partitions (4) with modular walls (2). The box (C) is adaptable as it meets the need for storing core samples (T) of varying diameters.

## SUMMARY

### "INTERCHANGEABLE DISMOUNTABLE HINGED BOX FOR STORING CORE SAMPLES"

This invention describes an interchangeable dismountable hinged box (C) for storing core samples, particularly used in the field of the collection of mineral materials, deriving from geological exploration activities, for subsequent analysis. The invention reveals a box (C) comprising modular walls (2 and 3) that can be fitted interchangeably with a base (1), allowing for the hinging of these walls (2 and 3) between a parallel position and a position perpendicular to the base (1). The box (C) comprises at least one storage compartment (C1) for core samples (T) defined between two modular transversal walls (2) and two modular longitudinal walls (3), and may comprise additional storage compartments (C1), obtained by interlocking interchangeable partitions (4) with modular walls (2). The box (C) is adaptable as it meets the need for storing core samples (T) of varying diameters.

## "INTERCHANGEABLE DISMOUNTABLE HINGED BOX FOR STORING CORE SAMPLES"

[01] This patent describes an interchangeable dismountable hinged box for storing core samples, specifically used in the field of the collection of mineral materials, deriving from activities of geological exploration, for subsequent analysis.

[02] The invention reveals a box comprising connectable modular walls that are interchangeable with a base, allowing for the movement of these walls between a collapsed position, saving storage space and an extended position, for storing core samples of different sizes, depending on the dimensions of the modular walls fitted in the base.

[03] The invention also proposes at least one interchangeable partition that makes the box easy to assemble and practical to use. In addition to this, each partition is enlarged and may comprise different dimensions that allow for the assembly of boxes with a number of compartments and adequate space to receive core samples of varying diameters.

[04] Conveniently, the enlarged partitions, in addition to fulfilling the functions mentioned above, confer greater mechanical strength on the box when assembled, and also ensure greater dimensional stability during the manufacturing process of each partition.

[05] The interchangeability occurs with the use of intuitive connecting means that facilitate the assembly and disassembly of the box, which simplifies the process of packing the samples, since the box is adaptable to the need to collect varying sizes of samples.

### History of the Invention

[06] Boxes for collecting core samples are known to the state of the art. Such boxes are manufactured from polymer and intended to provide greater durability and reliability for the storage of soil samples, in addition to allowing for the division of the inside of the box to form storage compartments for the core samples.

[07] An example of a box for storing cores samples is presented by the Australian patent document AU2010201733A1, which teaches a box

formed of a single body, comprising a base and walls, in addition to comprising a plurality of recesses intended to receive partition walls, which define spaces inside the box that are used as compartments for the storage of different core samples, with said partition walls being positioned in such a way as to allow for the storage of core samples of different diameters.

[08] Thus, in a disadvantageous manner, this type of box occupies a large storage area when it is not being used to store core samples, since its body does not possess the means to be disassembled or folded. Thus, the single body of the box will always occupy the same space when it is being transported or stored without the core samples.

[09] Furthermore, and also in a disadvantageous manner, these boxes of the state of the art do not have interchangeable walls, which allow for the use of modular components to form boxes of different dimensions, in accordance with the respective needs and use of said boxes. Thus, inconveniently, it is necessary to manufacture the bodies of these boxes in fixed sizes and, similarly, it is necessary for the end-customer to acquire boxes of different sizes so that it can store core samples of different sizes, increasing the costs of manufacturing and purchasing these boxes.

[010] With a view to resolving these inconveniences, the present invention proposes an interchangeable dismountable hinged box for storing core samples, which comprises modular walls that can be fitted in an interchangeable manner with a base, allowing for the hinging of these walls between a collapsed position, for saving storage space, and an extended position, for storing core samples of different sizes.

[011] Thus, one objective of this invention is to provide an interchangeable dismountable hinged box for storing core samples, which preferably comprises a single-sized base comprising modular fitting edges that can receive modular walls of different heights.

[012] Another aim of this invention is to provide an interchangeable dismountable hinged box for storing core samples, which comprises structurally reinforced and flexible modular walls that simultaneously allow for sealing with the base of this box, when said walls are in an assembled position.

[013] Another aim of this invention is to provide an interchangeable dismountable hinged box for storing core samples, which comprises modular internal partitions that can also have different dimensions and are interlocked with the modular walls of the box, while presenting an extended transversal section, to provide greater structural strength to this internal partition and the box itself.

[014] Advantageously, the present invention presents an interchangeable dismountable hinged box for storing core samples which possesses components designed to fulfill the specific needs related to the correct storage of core samples, being easy to assemble and practical to use, reducing the costs of manufacturing and acquiring said boxes and simultaneously producing space gains in the transportation and storage of said boxes when they are empty.

[015] Below are presented schematic figures of one particular embodiment of the invention, whose dimensions and proportions are not necessarily the real ones, since the figures simply have the purpose of didactically presenting their various aspects, whose scope is determined only by the scope of the attached claim.

Brief description of the drawings

[016] Figure 1 illustrates a perspective view of a box (C) with 3 (three) compartments (C1) containing core samples (T);

[017] Figure 1a illustrates a perspective view of a box (C) equipped with 4 (four) compartments (C1) containing core samples (T);

[018] Figure 2 illustrates an exploded perspective view of the box (C);

[019] Figure 3 illustrates a perspective view of a modular transversal wall (2);

[020] Figure 4 illustrates a perspective view of a modular longitudinal wall (3);

[021] Figure 5 illustrates a perspective view of a separator (5);

[022] Figure 6 illustrates a lateral perspective view of a base (1);

[023] Figure 6A illustrates an enlarged view of detail "A" of Figure

6;

[024] Figure 7 illustrates a perspective view of a box (C) without internal partitions (4) in an assembled position;

[025] Figure 8 illustrates a perspective view of a box (C) without internal partitions (4), showing the hinging of the modular walls (2 and 3) during the transition between an assembled position and a disassembled position;

[026] Figure 8A illustrates an enlarged view of detail "B" of Figure 8;

[027] Figure 9 illustrates a perspective view of a box (C) without internal partitions (4) in a disassembled position;

[028] Figure 10 illustrates a partial lateral view of a box (C), showing the hinging of a modular transversal wall (2);

[029] Figure 10A illustrates an enlarged view of detail "D" of Figure 10;

[030] Figure 11 illustrates a perspective view of a box (C), showing the hinging of the modular walls (2 and 3);

[031] Figure 11A illustrates an enlarged view of detail "E" of Figure 11;

[032] Figure 12 illustrates a partial perspective view of a box (C), showing the hinged of a modular transversal wall (2);

[033] Figure 12A illustrates an enlarged view of detail "F" of Figure 12;

[034] Figure 13 illustrates a partial perspective view of a box (C), showing the fitting of an interchangeable modular partition (4) into a modular transversal wall (2);

[035] Figure 13A illustrates an enlarged view of detail "G" of Figure 13.

#### Detailed Description of invention

[036] As represented by the attached figures, the interchangeable dismountable hinged box (C) for storing core samples (T) comprises at least one storage compartment (C1) for core samples (T) defined between two modular transversal walls (2) and two modular longitudinal walls (3) which are

assembled interchangeably between each other and the base (1). Thus, each modular wall (2 and 3) can be assembled and disassembled interchangeably, so that the base (1) can receive modular walls (2 and 3) of different dimensions, to form boxes (C) of different sizes, so that core samples (T) of different sizes can be stored in each storage compartment (C1) of said box (C).

[037] In addition to this, the assembly of the modular walls (2 and 3) is performed in such a way that each modular wall (2 and 3) is moveable between a position perpendicular to the base (1), on which the box (C) is assembled (see Figure 7), and a position parallel to the base (1), on which the box (C) is disassembled (see figure 9).

[038] As illustrated by figures 2, 3, 4 and 6, to enable the assembly of each modular wall (2 and 3) on the base (1), the said base (1) comprises connecting and hinged edges (10) that can be interlocked with a connecting and hinged edge (20) of each modular transversal wall (2).

[039] Moreover, the base (1) comprises a connecting and hinged edge (30) for each modular longitudinal wall (3). Thus, two of the connecting and hinged edges (10) receive, in an interchangeable and hinged manner, the modular transversal walls (2), while the other two connecting and hinged edges (10) receive, in an interchangeable and hinged manner, the modular longitudinal walls (3).

[040] In accordance with figures 8 and 8A, the sealing of each transversal wall (2) with the base (1) occurs through the contact of the faces (10a) of the base (1) and (20a) of each transversal base (2) when the box (C) is assembled.

[041] In accordance with figures 11 and 11A, the sealing of each longitudinal wall (3) with the base (1) occurs through the contact of the faces (10a) of the base (1) and (30a) of each longitudinal wall (3) when the box (C) is assembled.

[042] Also, in accordance with what is illustrated in Figure 12A, to enable the interlocking between each of the modular walls (2 and 3) arranged adjacently to each other, in order to keep the box (C) in an assembled position, each modular transversal wall (2) comprises at least one means of

perpendicular locking (21) which is interlockable with at least one means of perpendicular locking (31) for each modular longitudinal wall (3).

[043] Said means of perpendicular locking (21 and 31) are preferably configured by pressure locking elements, also known as *snap fit*, which, advantageously, can be interlocked with each other and unlocked in a simple and practical manner. Also, preferably, said means of perpendicular locking (21 and 31) are positioned in an upper region of each modular wall (2 and 3), respectively.

[044] Preferably, each pair of perpendicular locking means (21 and 31) that interlock with each other, is configured by one male type locking element and the other by a female type locking element. More specifically, each means of perpendicular locking (21) is configured to receive each means of perpendicular locking (31), where each means of perpendicular locking (21) is a trapezoidal-shaped hole and each means of perpendicular locking (31) is a trapezoidal-shaped projection, so as to enable the cooperative fitting and swift coupling of the modular walls (2 and 3) by mechanical interference, which may incorporate any locking system known to the state of the art, such as snap-fit, click type, pressure or similar.

[045] As illustrated by figures 2 and 13, said box (C) also comprises at least one interchangeable modular partition (2) interlockable with the modular transversal walls (2) mounted in a position perpendicular to the base (1). Thus, each interchangeable modular partition (4) is installed in the box (C) to create an additional storage compartment (C1), so that the number of interchangeable modular partitions (4) installed is compatible with the dimensions and number of storage compartments (C1) required for each use of the box (C).

[046] Preferably, as illustrated by figures 1, 12 and 13, each interchangeable modular partition (4) comprises an enlarged transversal section.

[047] Thus, each partition with an enlarged section may comprise different dimensions in order to facilitate the assembly of boxes with a number of compartments and adequate space to receive core samples (T) with varying

diameters.

[048] In one form of embodiment of the invention, as shown in Figure 1, the box (C) is assembled to configure 3 (three) compartments (C1) for the packing of samples (T) of a larger diameter.

[049] In another form of embodiment of the invention, as shown in Figure 1a, the box (C) is assembled in such a way as to configure 4 (four) compartments (C1) for the packing of samples (T) with a smaller diameter.

[050] As shown in figures 2, 12 and 13, each partition (4) comprises double walls, joined by a surface with an enlarged top. The surface with an enlarged top (42) varies in its dimensions to enable the assembly of a box (C) with a number of compartments and dimensions suitable for receiving core samples (T) of varying diameters.

[051] In this way, each partition with an enlarged transversal section (4), in addition to fulfilling the aforementioned functions, provides greater mechanical strength to the box when assembled, and also ensures greater dimensional stability during the manufacturing process of each partition (4).

[052] Technically, the enlarged partition (4) when interlocked with the transversal walls (2) provides greater structural stability to the box (C), since the partitions (4) assume the function of a structural rib, in such a way as to prevent plastic deformations (twists) at the time of their handling, during the maneuvers of collection and transportation of the core samples.

[053] Furthermore, the constructive form of the partition (4) described above, facilitates the manufacturing process of molding the thermoplastic material, since, said constructive form ensures dimensional stability during the manufacturing process, preventing potential contractions of the material.

[054] The fact that the partition (4) has a significant length, demands the manufacture of large molds and the use of a large amount of thermoplastic material to be processed.

[055] Overcoming these technical challenges of the manufacturing process, the partition with an enlarged section (4) is cooled without compromising its dimensions, avoiding twists along its length after the process

of cooling and extracting the part.

[056] As a result, the box (C) equipped with partitions (4) with enlarged sections can be packed with samples (T) of varying weights, keeping the structure of the box (C) stable and preserving the integrity of the samples during transportation and storage.

[057] As shown in figures 13 and 13A, each modular transversal wall (2) comprises at least one locking means (22) interlockable with at least one locking means (40) of each interchangeable modular partition (4). Preferably, each modular transversal wall (2) comprises a set of locking means (22) distributed along the length of each modular transversal wall (2) in positions correspondingly aligned with the locking means (22) of the other modular transversal wall (2) of the box (C). Thus, each interchangeable modular partition (4) can be interlocked in the locking media (22) arranged in different positions along the modular transversal walls (2), and several interchangeable modular partitions (4) can be interlocked in these locking media (22).

[058] In accordance with figures 3 and 6, in a preferred form of embodiment of the invention, at least two of the connecting and hinged edges (10) of the base (1) comprise at least one, and preferably two, connecting and hinged elements (100). Thus, each connecting and hinged element (100) is mounted on a connecting and hinged edge (20) in order to enable the connection of each modular wall (2) with the base (1).

[059] In accordance with figures 3, 4 and 6, in a preferred embodiment of the invention, each of the connecting and hinged edges (20) arranged on the modular transversal walls (2) comprises at least one connecting and hinged element (200) connectable under pressure to a connecting and hinged element (100).

[060] Each connecting and hinged element (100) is responsible for allowing the assembly of a connecting and hinged element (200), so that the modular wall (2) can perform a hinged movement of the modular wall (2) between its assembled position (see Figure 7), and a disassembled position adjacent to the lower surface (1B) of the base (1) (see figure 9).

[061] Thus, the connecting and hinged element (100) of the

modular base (1) and the connecting and hinged element (200) of the modular wall (2), allow each modular wall (2) to be assembled and connected to the modular base (1), and to be disassembled when modular walls (2) of larger dimensions are required.

[062] In accordance with what is illustrated in figures 10 and 10A, the connecting and hinged elements (100) do not allow the modular wall (2) to be connected to the upper surface (1A) of the modular base (1), allowing them only to be connected to the bottom surface (1B) of the base (1).

[063] Conveniently, this connecting arrangement of the modular walls (2) on the lower surface (1B) of the base (1), helps to ensure that there is no involuntary unlocking of each perpendicular locking medium (21) of the modular wall (2) between each perpendicular locking medium (31) of the modular wall (3).

[064] Preferably, as illustrated by figures 2, 3, 6 and 10A, each connecting and hinged element (100) is defined by a projection, preferably convex and cylindrical, integrated into the base (1) and which extends from the lower region of one of the connecting and hinged edges (10). In turn, each connecting and hinged element (200) is defined by a projection, preferably concave and cylindrical, integrated into one of the modular walls (2) and which extends from the lower region of one of the connecting and hinged edges (20) to be fitted under pressure into the connecting and hinged element (100).

[065] In accordance with Figure 6, in a preferred embodiment of the invention, at least two of the connection hinged edges (10) of the base (1) may comprise at least one, and preferably three, connecting and hinged elements (101) of a modular wall (3) in relation to the base (1).

[066] Thus, each connecting and hinged edge (10) may comprise one or more connecting and hinged elements (100) or one or more connecting and hinged elements (101).

[067] It will be understood that each connecting and hinged edge (10) can receive connecting and hinged elements (100) or connecting and hinged elements (101), since, said connecting and hinged elements (100) determine the connection of the walls (2 and 3) to the lower region (1B), while

each connecting and hinged element (101) determines the connection of the modular walls (2 and 3) to the upper region (1A) of the base (1).

[068] In accordance with what is illustrated in Figure 4, in the preferred form of embodiment of the invention, each of the connecting and hinged edges (30) of at least two of the modular walls (3) may also comprise at least one, and preferably three, connecting and hinged elements (300) that can be fitted to the connecting and hinged element (101), under pressure in this connecting and hinged element (101).

[069] Each connecting and hinged element (101) is responsible for allowing the assembly of a connecting and hinged element (300), so that the modular wall (3) can perform a hinged movement between its assembled position and a position adjacent to the upper surface (1A) of the base (1).

[070] Preferably, as illustrated by figures 2, 4 and 6, each connecting and hinged element (101) is defined by a projection, preferably convex and cylindrical, integrated into the base (1) and which extends from the upper region of one of the connecting and hinged edges (10). In turn, each connecting and hinged element (300) is defined by a recess, preferably concave and cylindrical, integrated with one of the modular walls (3) and inserted into the lower region of one of the connecting and hinged edges (30) to be fitted under pressure into the projection determined by a connecting and hinged element (101) (see figure 11A).

[071] As illustrated in figures 7, 8 and 9, the modular transversal walls (2) can be connected between their assembled position, and a position adjacent to the lower surface (1B) of the base (1), while the modular longitudinal walls (3) can be connected between their assembled position, and a position adjacent to the upper surface (1A) of the base (1).

[072] Furthermore, as illustrated by figures 6 and 11, each of at least two of the connecting and hinged edges (10) comprises at least one stopper (102) to limit the hinging of each modular wall (2).

[073] In the preferential form of embodiment of this invention, two connecting and hinged edges (10) comprise at least one stopper (102) to limit the hinging of each modular transversal wall (2). Furthermore, each

modular transversal wall (2) comprises an inclined sealing area (24) which prevents the modular transversal wall (1) from encroaching on each stopper projection (102). This limitation of movement prevents the hinging of the modular transversal walls (2) towards the upper surface (1A) of the base (1), preventing the disconnection between the modular transversal walls (2) and the modular longitudinal walls (3).

[074] Thus, each stopper (102) is a point of support of the inclined region (24) of the modular wall (2) with the base (1), which advantageously prevents the involuntary dismantling of the box (C).

[075] Furthermore, in accordance with what is illustrated in Figure 7, each wall (2) comprises at least one ergonomic handling region (23) to facilitate the gripping and handling of the box (C) by a human operator.

[076] In addition to this, preferably each modular longitudinal wall (3) also comprises at least one ergonomic handling region (33) to facilitate gripping and handling of the box (C) by a human operator.

[077] The handling region (23) is located in the lower portion of each modular wall (2), while each handling region (33) is located in the lower portion of each modular wall (3), in order to prevent the unlocking of the walls (2 and 3) during the lifting of the box (C). Thus, unlocking does not occur because each handling region (23 and 33) is arranged in a manner contrary to the fitting media (21 and 31) between the modular transversal walls (2) and the modular longitudinal walls (3).

[078] As illustrated by Figure 13, each modular longitudinal wall (3) also comprises a plurality of fitting recesses (32) respectively aligned with a plurality of fitting recesses (41) for receiving the separators (5), where the fitting recesses (41) are distributed along the length of each interchangeable modular partition (4). Thus, each separator (5) can be positioned in the fitting recesses (32 and 41) aligned with each other, as necessary to create separations between core samples (T) arranged in the storage compartments (C1), in accordance with the differences in length of each stored core sample (T).

[079] In accordance with Figure 5, the separator (5) comprises a tapered geometry and is equipped with side projections (52) that can be fitted

into the recesses (32 and 41) arranged along the partitions (4) and walls (3). The tapered shape of the separator facilitates insertion and allows for practical placement, keeping it static.

[080] The box (C) also comprises a lid (7) for closing the box (C) that rests on a receiving area (C2) which is defined by the alignment of top recesses (2A and 3A) arranged on the modular walls (2 and 3), respectively, when the said modular walls (2 and 3) are in the assembled position.

[081] Finally, the box (C) also comprises a plurality of structural reinforcements (6) distributed along the modular walls (2 and 3), preferably defined by vertical ribs, responsible for increasing the structural strength of these modular walls (2 and 3).

[082] A person skilled in the art will promptly note, from the description and drawings represented, various ways to realize the invention without departing from the scope of the attached claims.

Claims:

1. An interchangeable dismountable hinged box for storing core samples, comprising:

- two modular transversal walls;
- two modular longitudinal walls;
- a base; and
- at least one storage compartment for the core samples, defined by the two

modular transversal walls, the two modular longitudinal walls and the base,

wherein the two modular transversal walls and the two modular longitudinal walls are assembled in an alternating arrangement and are connected to the base in a hinged manner such that the two modular transversal walls and the two modular longitudinal walls are movable between a first position perpendicular to the base and a second position parallel to the base,

wherein each modular transversal wall has a first connecting and hinged edge, each modular longitudinal wall has a second connecting and hinged edge, and the base has a plurality of connecting and hinged edges, each of the plurality of connecting and hinged edges being interlockable with the first connecting and hinged edge of each modular transversal wall and with the second connecting and hinged edge of each modular longitudinal wall,

wherein each modular transversal wall further comprises at least one first perpendicular locking means and each modular longitudinal wall further comprises at least one second perpendicular locking means, the at least one first perpendicular locking means being interlockable with the at least one second perpendicular locking means,

wherein the box further comprises a sealing means between each of the first and the second connecting and hinged edges and one of the plurality of connecting and hinged edges; wherein the sealing means comprises a face of one of the plurality of connecting and hinged edges contacting a face of one of the modular transversal walls or one of the modular longitudinal walls when the modular transversal walls or the modular longitudinal walls are in the first position perpendicular to the base,

wherein the box further comprises at least one interchangeable modular partition interlockable with the two modular transversal walls and mounted

perpendicularly to the base, each interchangeable modular partition comprises two side walls and an enlarged top surface to confer greater structural stability on the box, and

wherein each modular longitudinal wall further comprises a set of fitting recesses respectively aligned with a plurality of fitting recesses distributed along a length of the at least one interchangeable modular partition for receiving separators; wherein each separator comprises a tapered geometry and is equipped with lateral projections that are configured to fit within the set of fitting recesses and the plurality of fitting recesses.

2. The interchangeable dismountable hinged box for storing core samples in accordance with claim 1, wherein each modular transversal wall further comprises at least one first locking means distributed along a length of each modular transversal wall and each interchangeable modular partition further comprises at least one second locking means, the at least one first locking means being interlockable with the at least one second locking means.

3. The interchangeable dismountable hinged box for storing core samples in accordance with claims 1 or 2, wherein at least one of the plurality of connecting and hinged edges of the base further comprises at least one first connecting and hinged element, and each of the first connecting and hinged edges of the modular transversal walls further comprises at least one second connecting and hinged element connectable under pressure to the at least one first connecting and hinged element.

4. The interchangeable dismountable hinged box for storing core samples in accordance with claim 3, wherein each of the at least one first connecting and hinged element is defined by a first projection integrated into the base and projecting from a lower region of the at least one of the plurality of connecting and hinged edges of the base, and wherein each of the at least one second connecting and hinged element is defined by a second projection integrated into one of the modular transversal walls and projecting from a lower region of one of the first connecting and hinged edges, the second projection being configured to be connectable under pressure along the first projection.

5. The interchangeable dismountable hinged box for storing core samples in accordance with claim 4, wherein the first projection is convex and cylindrical, and the second projection is concave and cylindrical.

6. The interchangeable dismountable hinged box for storing core samples in accordance with claim 3, wherein each of the at least one first connecting and hinged element is integrated into one of the plurality of connecting and hinged edges of the base that connect with the first connecting and hinged edges of the two modular transversal walls.

7. The interchangeable dismountable hinged box for storing core samples, in accordance with any one of claims 3 to 6, wherein at least one of the plurality of connecting and hinged edges of the base further comprises at least one third connecting and hinged element, and each of the second connecting and hinged edges of the modular longitudinal walls further comprises at least one fourth connecting and hinged element connectable under pressure to the at least one third connecting and hinged element.

8. The interchangeable dismountable hinged box for storing core samples in accordance with claim 7, wherein each of the at least one third connecting and hinged element is defined by a third projection integrated into the base and projecting from an upper region of the at least one of the plurality of connecting and hinged edges of the base, and wherein each of the at least one fourth connecting and hinged element is defined by a recess integrated into one of the modular longitudinal walls and inserted into a lower region of one of the second connecting and hinged edges, the recess being configured to be connectable under pressure along the third projection.

9. The interchangeable dismountable hinged box for storing core samples in accordance with claim 8, wherein the third projection is convex and cylindrical, and the recess is concave and cylindrical.

10. The interchangeable dismountable hinged box for storing core samples in accordance with claim 7, wherein each of the at least one third connecting and hinged element is integrated into one of the plurality of connecting and hinged edges of the base that connect with the second connecting and hinged edges of the two modular longitudinal walls.

11. The interchangeable dismountable hinged box for storing core samples in accordance with any one of claims 1 to 10, wherein each of the plurality of connecting and hinged edges of the base that are interlockable with the first connecting and hinged edge of each modular transversal wall further comprise at least one stopper for restricting hinging movement of the two modular transversal walls.

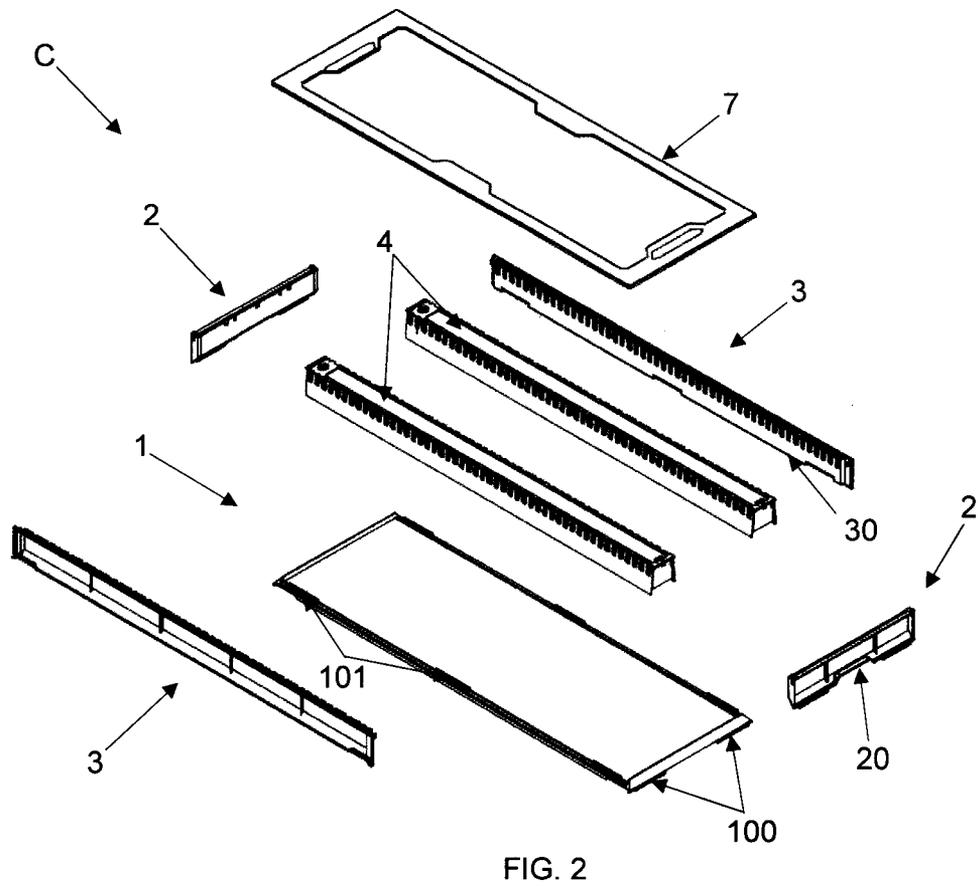
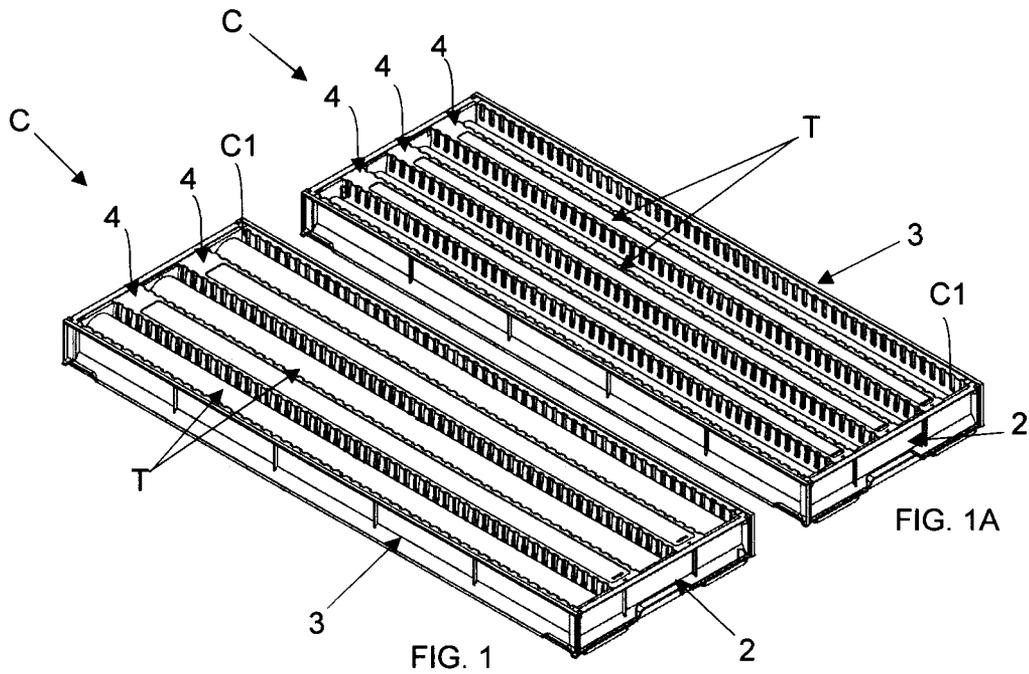
12. The interchangeable dismountable hinged box for storing core samples in accordance with claim 11, wherein each modular transversal wall further comprises an inclined sealing region for limiting encroachment of the modular transversal wall against at least one stopper, and at least one ergonomic handling region at a lower portion of the modular transversal wall.

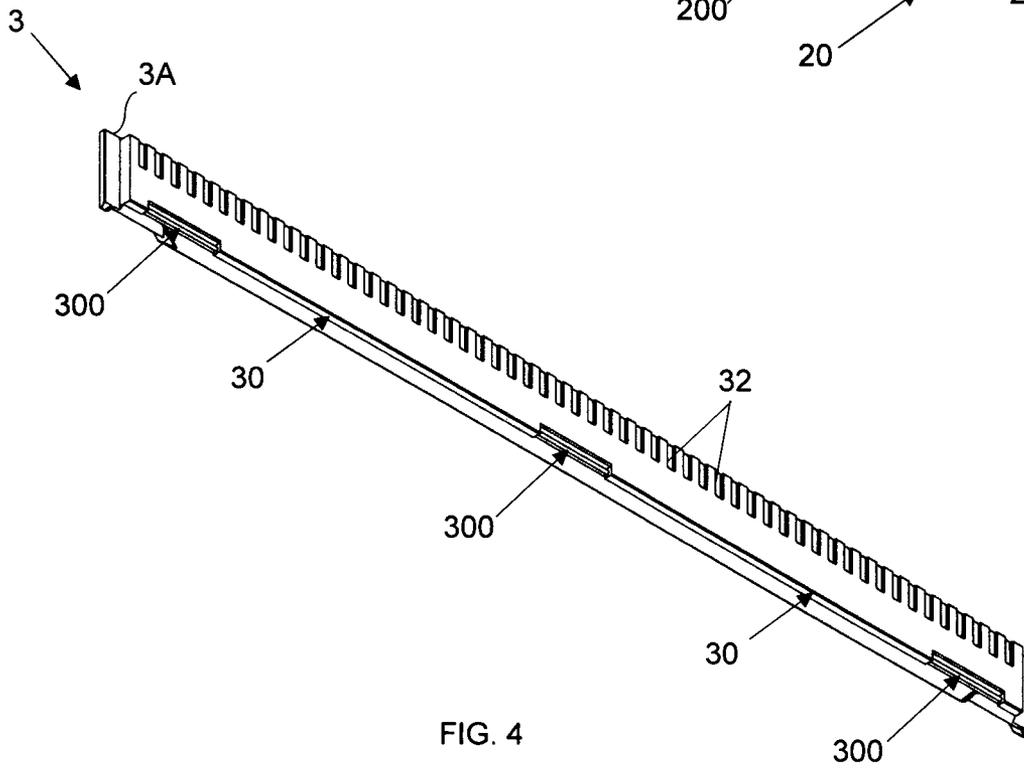
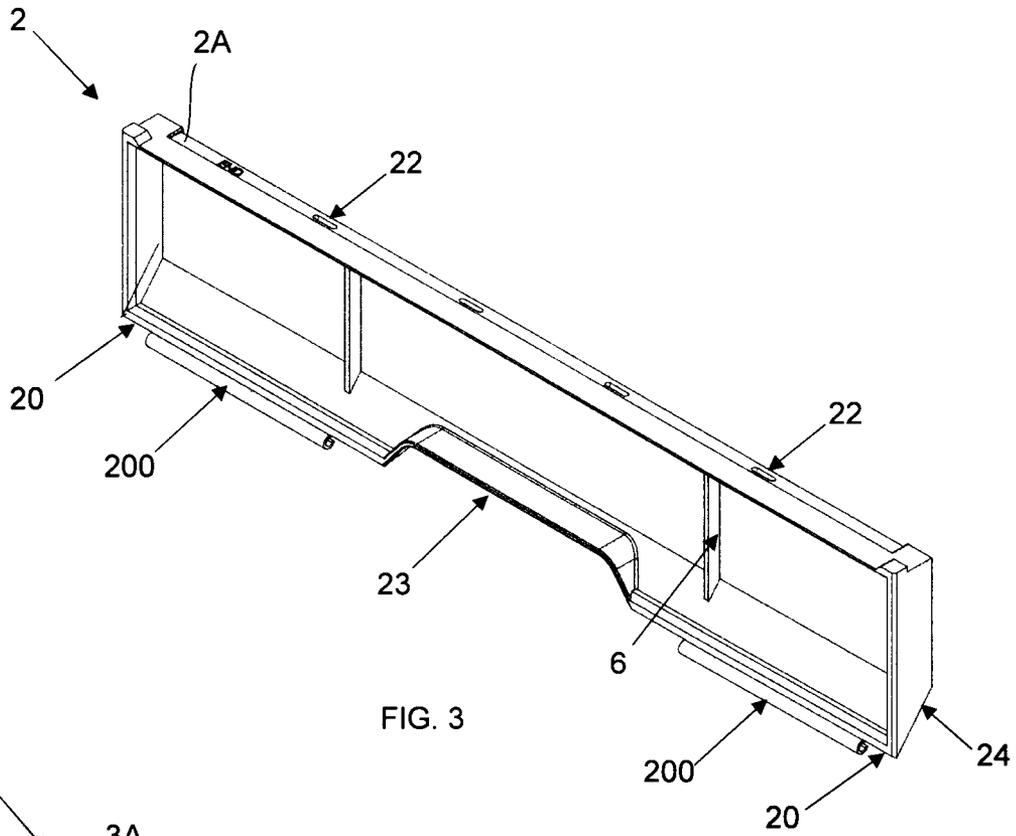
13. The interchangeable dismountable hinged box for storing core samples in accordance with any one of claims 1 to 12, wherein each modular longitudinal wall comprises at least one ergonomic handling region at a lower portion of the modular longitudinal wall.

14. The interchangeable dismountable hinged box for storing core samples in accordance with any one of claims 1 to 13, wherein a set of structural reinforcements are distributed along the two modular transversal walls and the two modular longitudinal walls, and further comprising a lid for closing the box that sits on a receiving region defined by an alignment of top recesses arranged on the two modular transversal walls and the two modular longitudinal walls, respectively.

15. The interchangeable dismountable hinged box for storing core samples in accordance with any one of claims 1 to 14, wherein the at least one first perpendicular locking means and the at least one second perpendicular locking means are positioned in upper regions of each modular transversal wall and each modular longitudinal wall, respectively, and the at least one first perpendicular locking means and the at least one second perpendicular locking means form a pair that interlock with one another.

16. The interchangeable dismountable hinged box for storing core samples in accordance with any one of claims 1 to 15, wherein each of the at least one first perpendicular locking means is a trapezoidal-shaped hole and each of the at least one second perpendicular locking means is a trapezoidal-shaped projection for enabling a cooperative fitting and coupling of the two modular transversal walls with the two modular longitudinal walls by mechanical interference.





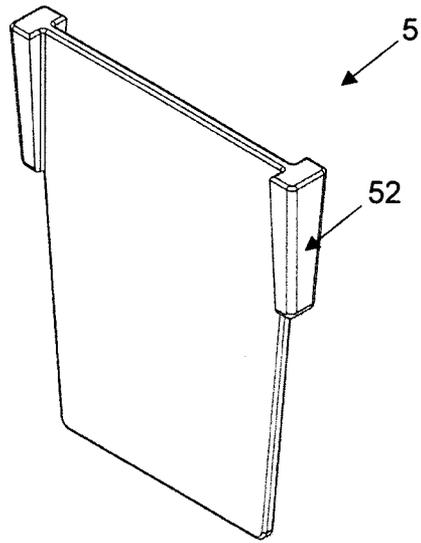


FIG. 5

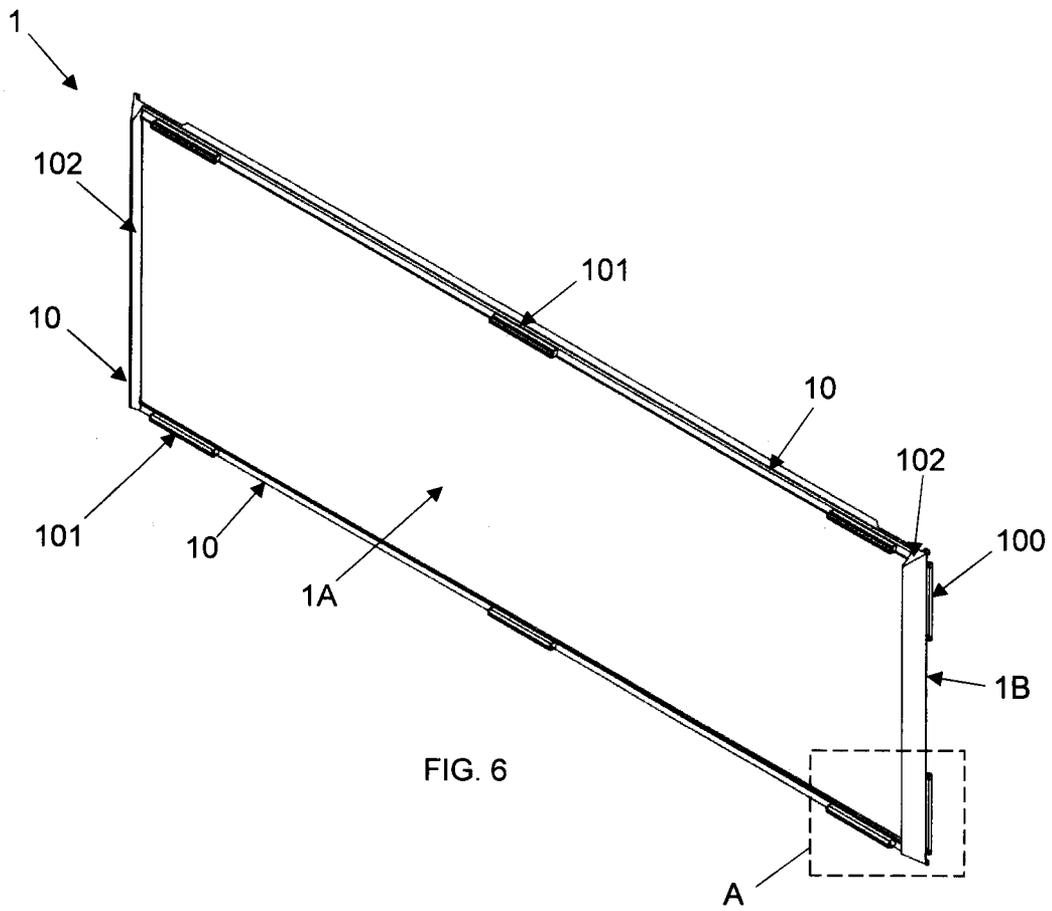


FIG. 6

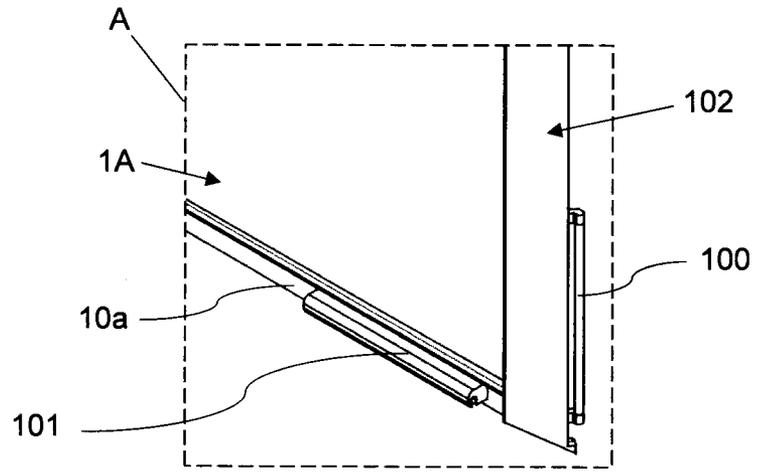


FIG. 6A

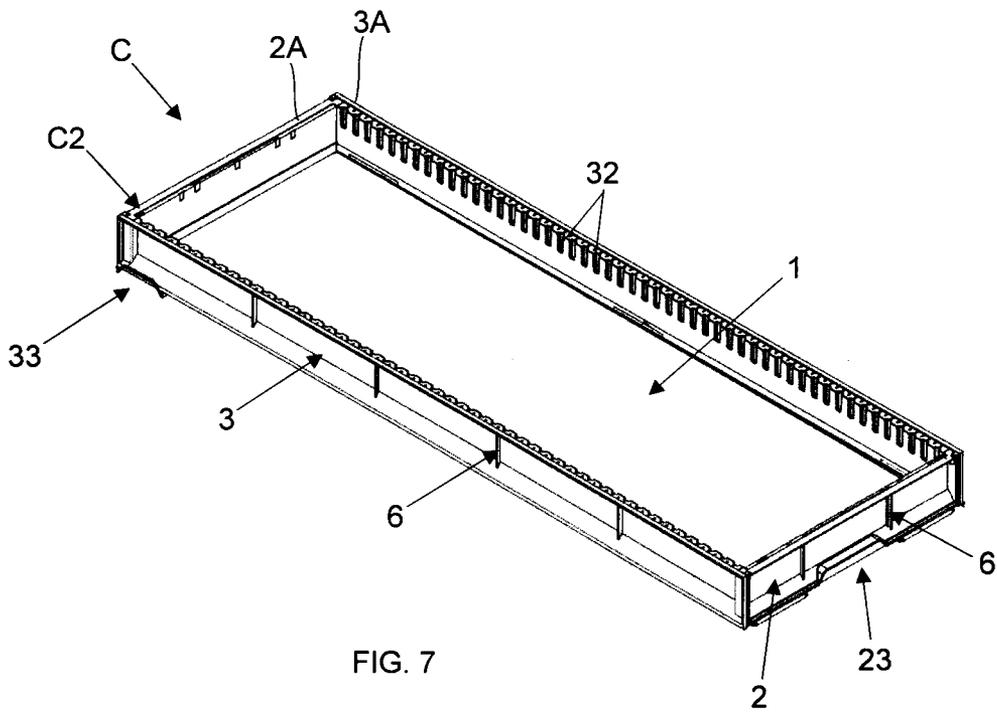


FIG. 7

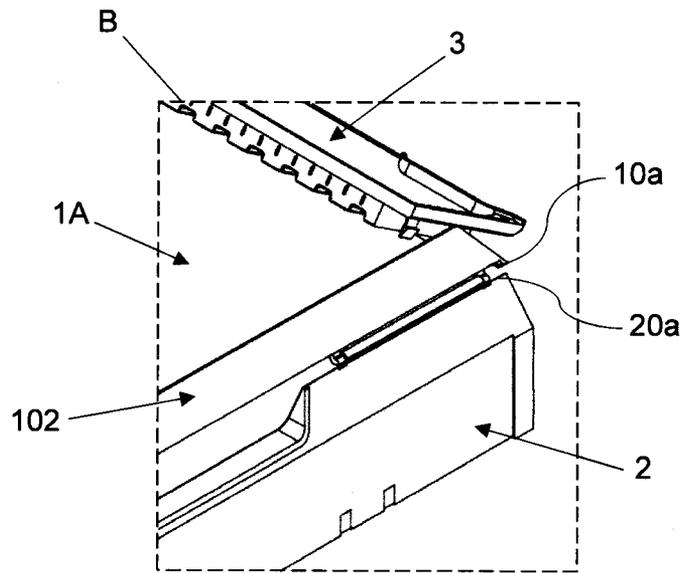
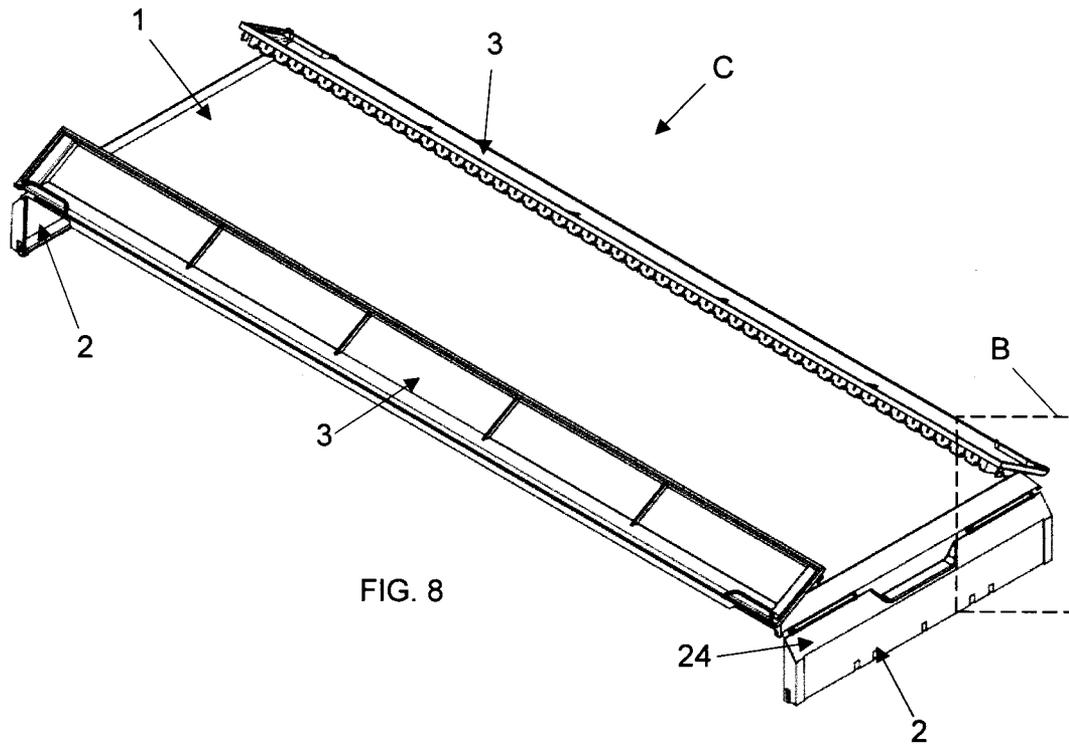


FIG. 8A

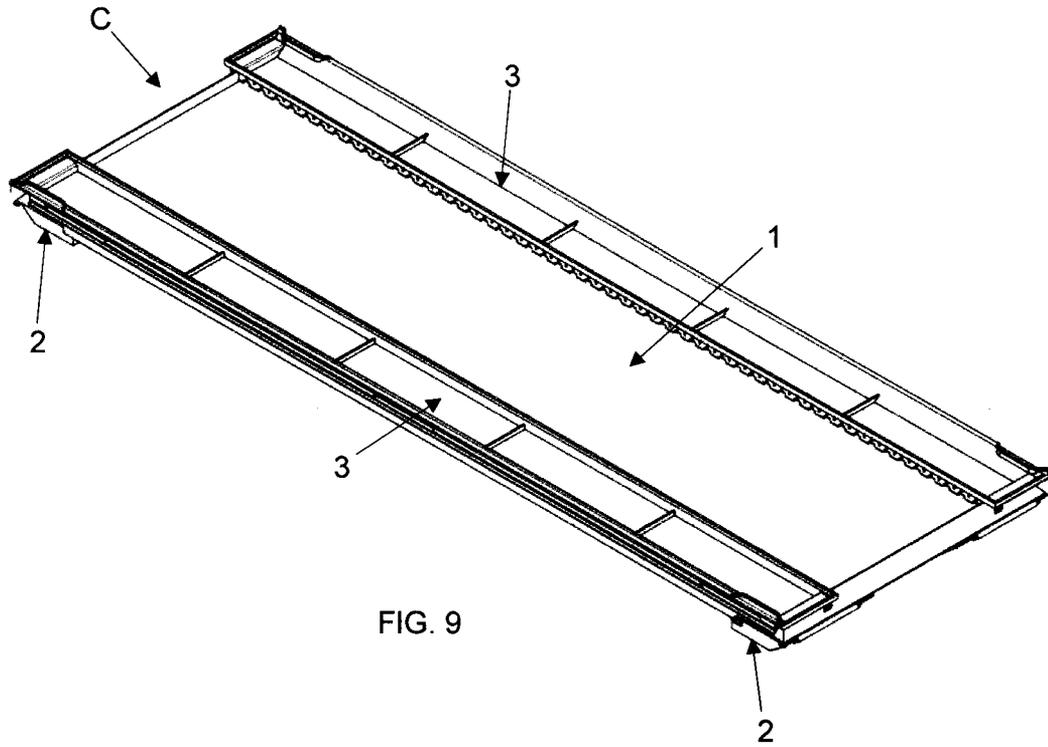


FIG. 9

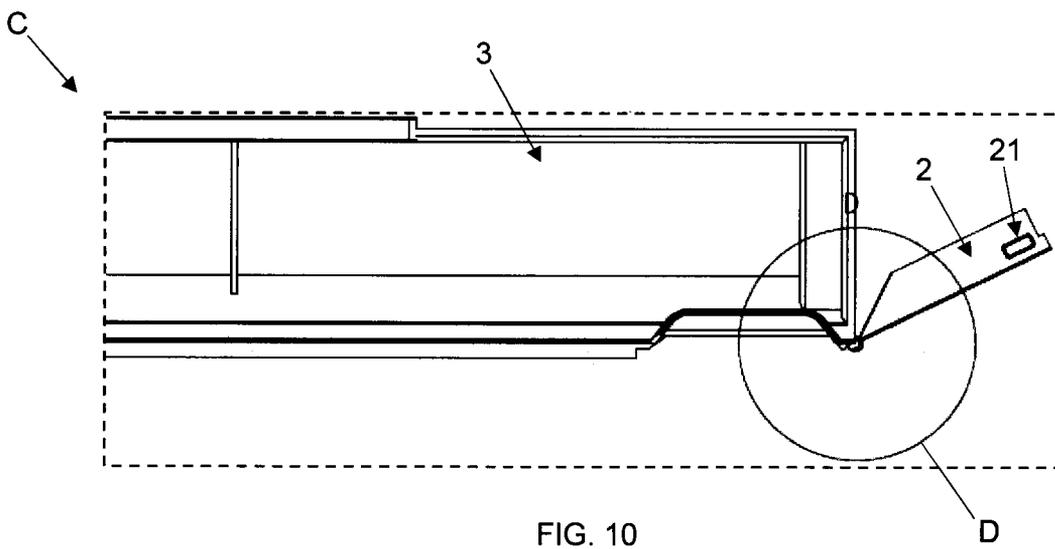


FIG. 10

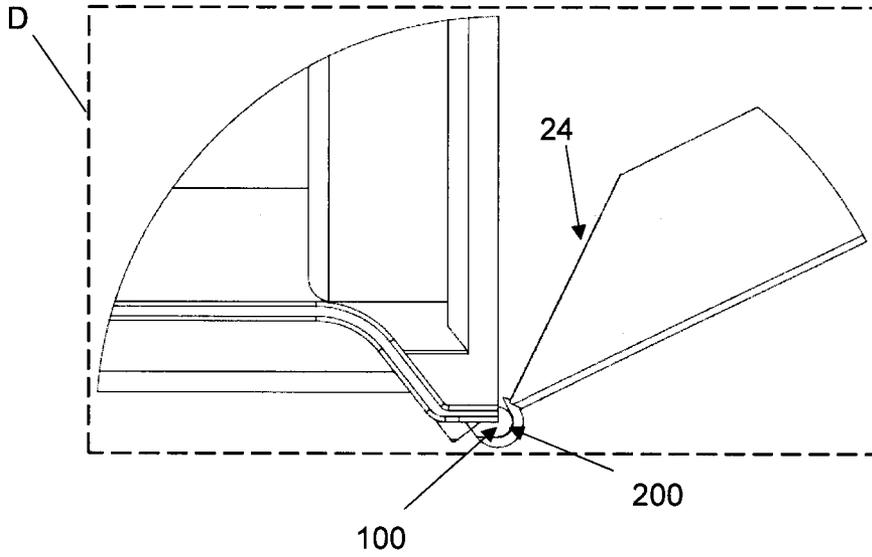


FIG. 10A

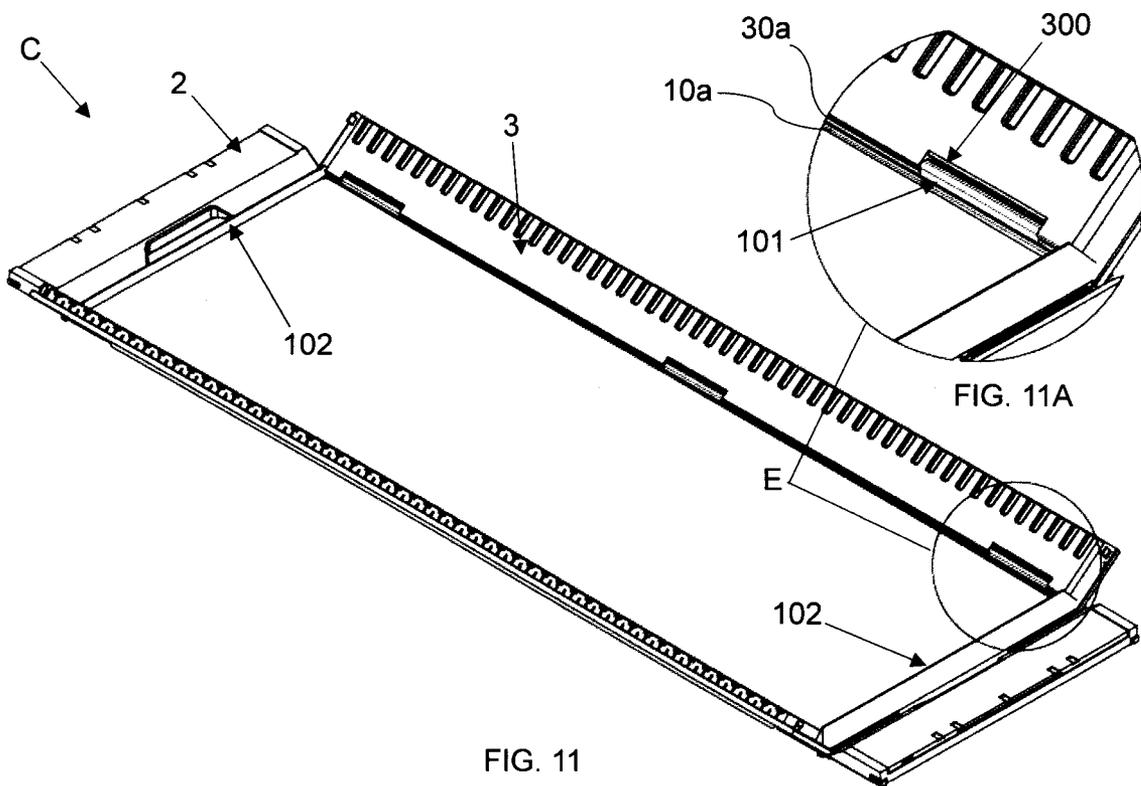
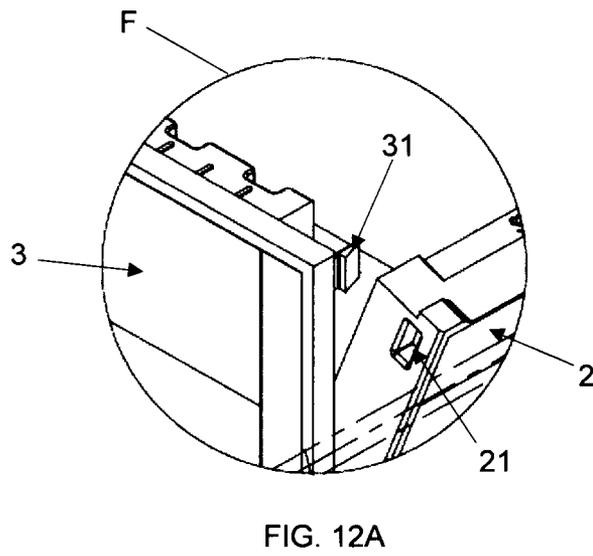
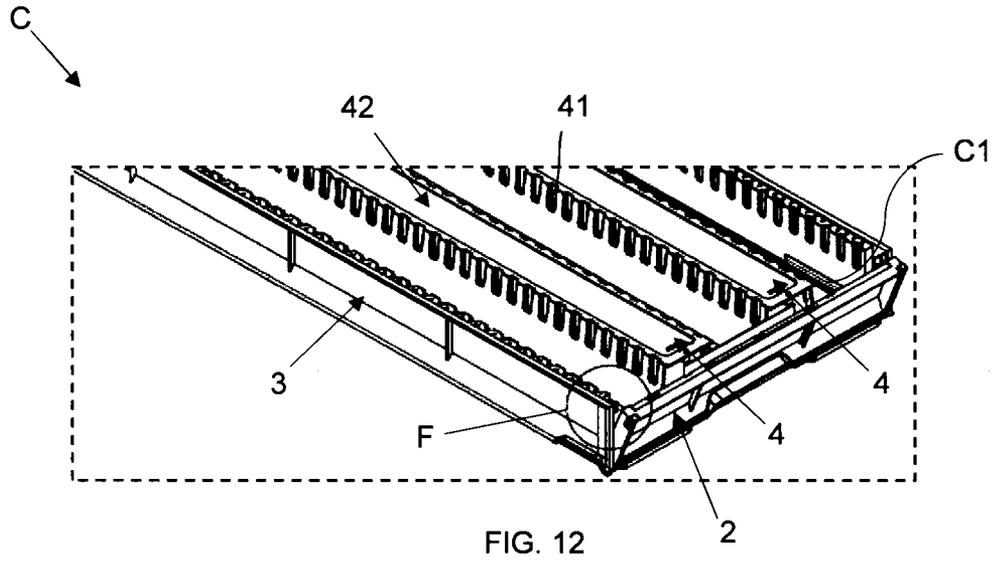


FIG. 11



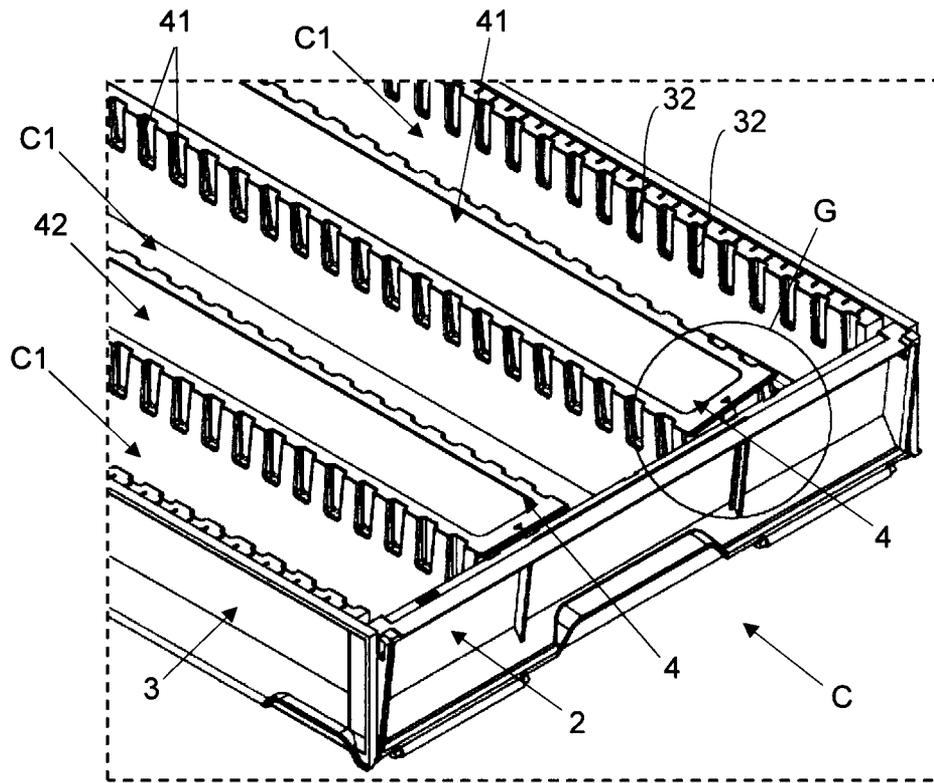


FIG. 13

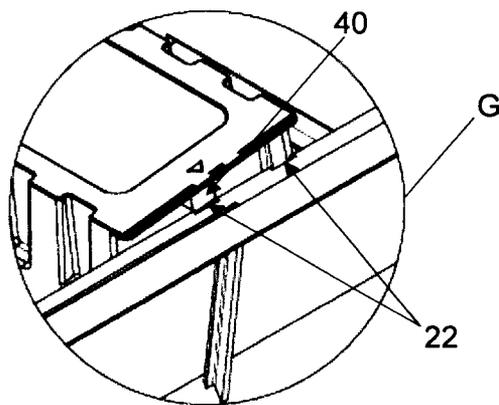


FIG. 13A

