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(71) Applicant: **The Stanley Works Israel Ltd.**
48091 Rosh Ha'Ayin (IL)

(72) Inventor: **Galler, Iftach**
40692, Kfar Hess (IL)

(74) Representative: **Bell, Ian Stephen et al**
Black & Decker
Patent Department
210 Bath Road
Slough
Berkshire SL1 3YD (GB)

(54) Multi-Material Connection and Carrier Assembly using the same

(57) A partially rigid and partially fabric assembly including a rigid structure having first connector elements, fabric material for being connected to the rigid structure, and a plastic connector structure that connects the fabric material to the rigid structure. The plastic connector structure includes second connector elements constructed and arranged to connect the plastic connector structure to the rigid structure and a fabric connector portion. The partially rigid and partially fabric assembly also includes a sewing material sewn through the fabric connector portion of the plastic connector structure and the fabric material.

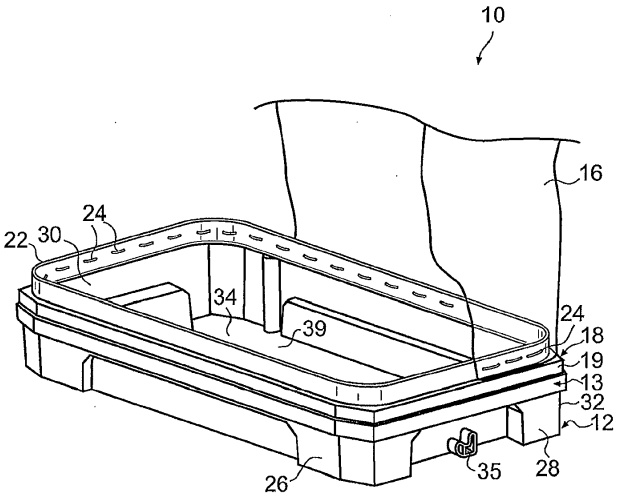

FIG. 1

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Description

[0001] The present application claims the benefit of priority from U.S. Provisional Patent Application No. 61/290,685, filed on December 29, 2009, the content of which is incorporated herein by reference in its entirety.

[0002] The present invention relates to a multi-material connection and carrier assembly using the same.

[0003] Various products, such as carrier assemblies, used to carry a plurality of tools and objects are often made from multiple materials. The invention relates to improvements in material connections and products made therewith.

[0004] One aspect of the invention provides a partially rigid and partially fabric assembly including a rigid structure having first connector elements and fabric material that is connected to the rigid structure. The assembly further includes a plastic connector structure that connects the fabric material to the rigid structure. The plastic connector structure includes second connector elements constructed and arranged to connect with the first connector elements of the rigid structure so as to connect the plastic connector structure to the rigid structure and a fabric connector portion. The assembly further includes a sewing material sewn through the fabric connector portion of the plastic connector structure and the fabric material, so as to connect the fabric material to the plastic connector structure.

[0005] Another aspect of the invention provides a partially rigid and partially fabric container assembly including a rigid bottom portion having first connector elements and a peripheral plastic connector structure having second connector elements constructed and arranged to connect to the first connector elements, so as to connect the rigid bottom portion to the peripheral plastic connector structure. The assembly further includes side walls made of fabric. The fabric side walls are sewn to the peripheral plastic connector structure. The assembly also includes a handle constructed and arranged to enable a user to carry the partially rigid and partially fabric container assembly.

[0006] These and other aspects of the present invention, as well as the methods of operation and functions of the related elements of structure and the combination of parts and economies of manufacture, will become more apparent upon consideration of the following description and the appended claims with reference to the accompanying drawings, all of which form a part of this specification, wherein like reference numerals designate corresponding parts in the various figures. In one embodiment, the structural components illustrated herein can be considered drawn to scale. It is to be expressly understood, however, that the drawings are for the purpose of illustration and description only and are not a limitation of the invention. In addition, it should be appreciated that structural features shown or described in any one embodiment herein can be used in other embodiments as well. As used in the specification and in the claims, the singular form of "a", "an", and "the" include plural referents unless the context clearly dictates otherwise.

Fig. 1 is a perspective view of a fabric material and a rigid structure connected to a plastic connector structure, with a partial ghosted perspective of the fabric provided so as to reveal other components;

Fig. 2 is a perspective view of the plastic connector structure with a lower portion facing up;

Fig. 3 is a perspective view of the plastic connector structure with a fabric connecting portion facing up;

Fig. 4 is a partial perspective view of the plastic connector structure;

Fig. 5 is a cross sectional view of the plastic connector structure connected to the rigid structure;

Fig. 6 is a cross sectional view of the plastic connector structure being connected to the rigid structure;

Fig. 7 is a perspective view of the rigid structure and the plastic connector structure in accordance with an embodiment of the present invention;

Fig. 8 is a view from the bottom of the fabric material and the plastic connector structure in accordance with an embodiment of the present invention; and

Fig. 9 is an exploded view of a partially rigid and partially fabric container assembly in accordance with an embodiment of the present invention.

[0007] Fig. 1 shows a partially rigid and partially fabric assembly 10 including a relatively rigid structure 12 having first connector elements 14 (see Fig. 5), a fabric material 16 for being connected to the relatively rigid structure 12, and a plastic connector structure 18 that connects the fabric material 16 to the rigid structure 12. The first connector elements 14 may be located on an upper portion 13 of the rigid structure 12. The plastic connector structure 18 includes a fabric connector portion 22 and second connector elements 20 (see Fig. 2) constructed and arranged to connect the plastic connector structure 18 to the rigid structure 12. The second connector elements 20 may be located on a lower portion 15 of the plastic connector structure 18. The partially rigid and partially fabric assembly 10 also includes a sewing material 24 sewn through the fabric connector portion 22 of the plastic connector structure 18 to connect the fabric material 16 thereto.

[0008] In the embodiment shown in Fig. 1, the rigid structure 12 takes the form of a molded plastic pan or bottom portion, and has a front wall or side 26, a right wall or side 28, a left wall or side 30, a back wall or side 32, and a bottom wall or side 34. The front wall 26, the right wall 28, the left wall 30, and the back wall 32 may define an interior space 39 in which articles can be stored. The relatively rigid structure 12 may be made of or incorporate plastic, metal, wood, rubber, and/or other relatively rigid materials in comparison with the relatively flexible fabric material. The rigid structure 12 may optionally be made of molded plastic. The plastic connector structure

18 may be positioned between the rigid structure 12 and the fabric material 16 such that the fabric material 16 is connected to the rigid structure 12 via the plastic connector structure 18.

[0009] In this embodiment, the plastic connector structure 18 has a ring geometry or configuration. Although the ring geometry of the rigid structure 12 and the plastic connector structure 18 are shown to be substantially rectangular, it is contemplated that the rigid structure 12 and/or the plastic connector structure 18 may have other shapes, such as, for example, circular or oval shapes. It is also contemplated that in some embodiments, the plastic connector structure 18 may have a generally straight configuration. For example, rather than a rectangular ring, four continuous separate straight sections can be used for the plastic connector structure. The corners of the straight sections may not be directly connected to one another, depending on the desired configuration or manufacturing characteristics. It should thus also be appreciated that the partially rigid and partially fabric assembly claimed and disclosed herein may be used in a vast array of other products other than the container assembly disclosed herein.

[0010] As shown in Fig. 1, the fabric material 16 may be connected to the fabric connector portion 22 of the plastic connector structure 18 via the sewing material 24. The fabric material 16 may be sewn around the fabric connector portion 22 so as to form an enclosure, as shown in Fig. 8. The fabric material 16 may be any relatively flexible material in comparison to the relatively rigid structure 12. Just for example, the fabric material may be leather, denim, vinyl, cotton, rayon, nylon, wool, silk, mesh, velvet, canvas, other materials, or a mixture thereof. The sewing material 24 may include thread, yarn, string, rope, cord, wire, twine, made of nylon, cotton, polyester, metal, or any other material suitable for sewing or stitching. In one embodiment, the thickness of the fabric connector portion 22 of the plastic connector structure 18 is less than the thickness of the lower portion 15 of the plastic connector structure 18 on which the connector elements 20 are located. As such, the thinner material facilitates the sewing of the fabric material 16 to the fabric connector portion 22.

[0011] In one optional application, the partially rigid and partially fabric assembly 10 may be used as the top container that is latched or connected to a base container of a rolling container assembly, as described in U.S. Patent Application Publication No. 2010/0290877, hereby incorporated by reference in its entirety.

[0012] As shown in Fig. 1, the rigid structure 12 may optionally include a protrusion 35 (shown in this Figure as being located on the right wall 28) that is constructed and arranged to engage with a portion of the rolling container assembly so that the partially rigid and partially fabric assembly 10 may be latched above a base container of a rolling container assembly. One or more protrusions 35 may be located on any portion of the rigid structure, such as, for example, on any combinations of the front wall 26, the right wall 28, the left wall 30, and the back wall 32. In one embodiment, each of the left wall 30 and the right wall 28 may have a protrusion 35 located thereon. The protrusions 35 may be similarly constructed and arranged as locking pins 164 of the removable container 16 of the rolling container assembly described in U.S. Patent Application Publication No. 2010/0290877. The protrusions 35 may be attached to the rolling container assembly in a similar manner as the locking pins 164 of the removable container 16 described in U.S. Patent Application Publication No. 2010/0290877. That is, the notches 162 of the latch members 114 located on the container engaging region 44 may receive the protrusions 35 of the rigid structure 12 so as to removably attach the rigid structure 12 to the rolling container assembly described in U.S. Patent Application Publication No. 2010/0290877. It is contemplated that the partially rigid and partially fabric assembly 10 may optionally be latched to a rolling container assembly using other connections.

[0013] Fig. 2 shows the plastic connector structure with the lower portion 15 facing up and without the fabric material 16 and the rigid structure 12 connected thereon. In this embodiment, the connector elements 20 take the form of openings provided on the lower portion 15. However, it should be appreciated that the connector elements 20 are not limited to the ones shown in this embodiment, and may take other forms or configurations. The lower portion 15 may also have a plurality of ridges 38 formed thereon. The ridges 38 may be constructed and arranged to reinforce the connection between the rigid structure 12 and the lower portion 15 of the plastic connector structure 18.

[0014] Although the lower portion 15 and the fabric connector portion 22 may be generally rectangular in shape, the lower portion 15 may have various other shapes, and may have more edges than the fabric connector portion 22. For example, as shown in Fig. 2, the lower portion 15 may include a front wall or side 40, a right wall or side 42, a left wall or side 44, and a back wall or side 46. Angled edges 48, 50, 52, and 54 may be constructed and arranged to connect the front wall 40, the right wall 42, the left wall 44, and the back wall 46 to each other. In contrast, the fabric connector portion 22 may be a continuous periphery and can flex to accommodate various shaped bottoms. The plastic connector structure 18 may also include a middle portion 19 that is constructed and arranged to be exposed when the fabric material 16 and the rigid structure 12 are connected to the plastic connector structure 18, as shown in Fig. 1. The middle portion 19 may also be constructed to have the same shape or configuration as the lower portion 15. A raised portion 60 may be provided on the peripheral surface of the plastic connector structure 18 to define an area between the lower portion 15 and the middle portion 19. Accordingly, the raised portion 60 may define the upper limit of the lower portion 15. The plastic connector structure 18 may also have protrusions 43 that extend

generally perpendicularly from the back wall 46. The protrusions 43 may be constructed and arranged to extend into a portion of the rigid structure 12 (see Fig. 7) when the plastic connector structure 18 is connected to the rigid structure 12, so as to reinforce the connection between the plastic connector structure 18 and the rigid structure 12.

[0015] As shown in Fig. 3, the fabric connector portion 22 may be disposed on a top surface 62 of the middle portion 19. The periphery of the fabric connector portion 22 and the top surface 62 of the middle portion 19 may define a support flange 64 on the top surface 62 of the middle portion 19. If a sewing machine is used to connect the fabric material 16 to the connecting portion 22, the support flange 64 and the periphery of the fabric connector portion 22 may be constructed and arranged to serve as a stop surface or "stopper" for a sewing machine that may be used to sew the fabric material 16 to the fabric connector portion 22. As such, a presser foot of a sewing machine may travel along the edge of the fabric connector portion 22 near the support flange 64 when the sewing machine is used to sew fabric material 16 to the plastic connector structure 18. In some embodiments, the support flange 64 may be constructed and arranged to guide the foot of the sewing machine. In one embodiment, the height of the fabric connector portion 22 may be 20 mm or more to accommodate the fabric material 16. In some embodiments, the support flange 64 may also operate as a stop surface for the fabric material 16 such that the fabric material 16 may not extend past the support flange 64 when the fabric material 16 is connected to the plastic connector structure 18. In one embodiment, the edge of the fabric material 16 abuts against the support flange 64 when the fabric material 16 is connected to the plastic connector structure 18.

[0016] Fig. 4 shows the second connector elements 20 taking the form of openings, as noted above. Beveled surfaces 66 on the plastic connector structure 18 may define the upper edge of the second connector elements 20. Lower surfaces 67 may define the lower edge of the second connector element 20. The beveled surfaces 66 may be constructed and arranged to facilitate or reinforce the engagement of the second connector elements 20 of the plastic connector structure 18 with the first connector elements 14 of the rigid structure 12, which will be described in more detail later.

[0017] Fig. 5 is a cross sectional view of the plastic connector structure 18 connected to the rigid structure 12. In this embodiment, the rigid structure 12 includes a lower container portion 68 and the upper portion 13. The upper portion 13 may be constructed and arranged to receive the lower portion 15 of the plastic connector structure 18. In the embodiment shown in Fig. 5, the upper portion 13 includes a back wall 72 and a front wall 74 that is spaced apart from and extending generally parallel to the back wall 72. As such, the back wall 72 and the front wall 74 define a receiving groove 75 (see Fig. 6) constructed and arranged to receive the lower portion 15 of the plastic connector structure 18. Connector walls 76 extending between the front wall 72 and the back wall 74 may be constructed and arranged to connect the front wall 74 to the back wall 72. In one embodiment, the connector walls 76 may be located on a lower portion of the front wall 74 and the back wall 72 such that a rim 78 of the lower portion 15 of the plastic connector structure 18 abuts against the connector walls 76 when the plastic connector structure 18 is engaged with the rigid structure 12. Alternatively, in one embodiment, the connector walls 76 may extend vertically between the front wall 74 and the back wall 72.

[0018] As shown in Fig. 5, the first connector elements 14 of the rigid structure 12 may take the form of protrusions. In this embodiment, each first connector element 14 has a slanted surface 80 constructed and arranged to slope outwardly from the back wall 72. Each first connector elements 14 may also have an engaging surface 82 extending between the back wall 72 of the rigid structure 12 and the slanted surface 80. The engaging surface 82 may be constructed and arranged to abut against the lower surface 67 (see Fig. 4) of the connector elements 20 when the plastic connector structure 18 is connected to the rigid structure 12. As shown in Fig. 5, when the first connector element 14 of the rigid structure 12 is engaged with the second connector element 20 of the plastic connector structure 18, the raised portion 60 of the plastic connector structure 18 may be disposed on top of the front wall 74 of the rigid structure 12. In the engaged position, the top of the upper portion 13 of the rigid structure 12 may be disposed slightly below the support flanges 64 of the plastic connector structure 18.

[0019] Fig. 6 is a cross sectional view of the plastic connector structure 18 being connected to the rigid structure 12. The first connector elements 14, taking the form of protrusions in this embodiment, and the second connector elements 20, taking the form of openings in this embodiment, may be constructed and arranged such that when the lower portion 15 of the plastic connector structure 18 is vertically aligned with the receiving groove 75 of the rigid structure 12, the first connector elements 14 are vertically aligned with the second connector elements 20. As such, a user may simply push the plastic connector structure 18 towards the rigid structure 12 to connect the plastic structure 18 to the rigid structure 12. When the user pushes the plastic connector structure 18 towards the rigid structure 12, the rim 78 of the plastic connector structure 18 may slide along the slanted surface 80 of the first connector elements 14 as the lower portion 15 of the plastic connector structure 18 enters the receiving groove 75 of the rigid structure 12. The lower portion 15 of the plastic connector structure 18 may push against the front wall 74 and the first connector element 14 of the rigid structure 12, which may cause the front wall 74 to flex outwardly as a result. The lower portion 15 may then slide into the groove 75 until the first connector element 14 is aligned with the second connector element 20, whereupon the first connector element 14 snaps into the

second connector element 20. Accordingly, at least a portion of the first connector element 14 is received by the second connector element 20. Thus, the first connector element 14 retains the second connector element 20 and prevents the plastic connector structure 18 from being removed from the rigid structure 12. In one embodiment, at least a portion of the slanted surface 80 of the first connector element 14 abuts against the beveled surface 66 of the second connector element 20 when the plastic connector structure 18 is connected to the rigid structure 12. It is contemplated that in some embodiments, the configuration of the first connector elements 14 and second connector elements 20 may be interchanged. For example, the first connector elements 14 may take the form of openings and the second connector elements 20 may take the form of protrusions. The first connector elements 14 and the second connector elements 20 may optionally take other forms or configurations such as hooks, depressions, friction fit connections, snap-fit connections, or other connections. The number and location of the first connector elements 14 and the second connector elements 20 may vary.

[0020] Fig. 7 shows the partially rigid and partially fabric assembly 10 with the rigid structure 12 connected to the plastic connector structure 18 and with the fabric material 16 removed. In this embodiment, depressions 36 may be provided on the front wall 26, the right wall 28, the left wall 30, and the back wall 32. These depressions 36 may facilitate the attachment and removal of the partially rigid and partially fabric assembly 10 to and from the rolling container assembly, as noted above, if desired. However, it is contemplated that in some embodiments, the partially rigid and partially fabric assembly 10 may not be removed from the rolling container assembly. In such embodiments, the partially rigid and partially fabric assembly 10 may be configured to be slideable relative to the rest of the rolling container assembly between an open position wherein the contents of the partially rigid and partially fabric assembly 10 may be accessed and a closed position wherein the contents the partially rigid and partially fabric assembly 10 may not be accessed. In other embodiments, no connecting to a rolling container is enabled (e.g., no protrusion 35 is provided).

[0021] Fig. 8 is a perspective view from the bottom of the fabric material 16 connected to the plastic connector structure 18. Specifically, in this view, the rigid structure 12 is removed and the view is from the bottom such that the plastic connector structure 18 is seen closer in proximity than the fabric portion 16. In other words, this Figure is seen from the bottom in the direction of A (see Fig. 9). The fabric material 16 may form a storage portion 82 comprising a front side 84, a left side 86, a right side 88, and a back side 90. The front side 84, the left side 86, the right side 88, and the back side 90 may define an interior space 92 in which articles can be stored. This fabric storage portion 82 may be connected to a rigid structure 12 to form a fabric and plastic container assembly 11.

[0022] As shown in Fig. 8, reinforcing strips 94 may be provided on the fabric material 16 to reinforce the storage portion and to enable the fabric storage portion 82 to stand upright. The reinforcing strips 94 may be attached to the fabric storage portion 82 via screws 83, although it is contemplated that other attachment mechanisms may be used, such as, for example, adhesive, rivets, sewing material, or others. The reinforcing strips 94 may be made from rigid or semi-rigid materials, such as, for example, cardboard or plastic. The reinforcing strips 94 may be sewn into the fabric material 16 to enhance the structural integrity of the fabric storage portion 82. In some embodiments, there may be reinforcing panels made of plastic, cardboard, or other materials sewn between two or more layers of the fabric material 16 so as to provide structural integrity to the fabric storage portion 82. A cushion material, such as foam, may optionally be sewn between two or more layers of the fabric material 16 to provide cushioning characteristics. The fabric material 16 may be stitched or sewn along bindings 96 to form the storage portion 82. It is contemplated that the bindings 96 may also comprise plastic, canvas, or other flexible materials to help reinforce the fabric storage portion 82 and/or for aesthetic purposes. The storage portion 82 may also include pockets formed thereon to enable more organized storage.

[0023] In one embodiment, the plastic and fabric container assembly 11 may include straps 104, 106 constructed and arranged to facilitate the carrying of the assembly 11. In the embodiment shown in Fig. 8, the straps 104, 106 are attached to the left wall 86 and the right wall 88, although it is contemplated that the straps may be attached elsewhere in other embodiments.

[0024] In this embodiment, a handle 98 is constructed and arranged to extend between the left wall 86 and the right wall 88 in the interior space 92. The handle 98 may have a generally circular or oval cross-section, although it is contemplated that the handle 98 may have other cross-sectional shapes. In this embodiment, the handle 98 has a generally circular cross-sectional shape, which tapers into a thinner cross-sectional shape towards ends 101 of the handle 98. The handle 98 may be connected to the left wall 86 and the right wall 88 via screws 99. It is contemplated that the handle 98 may be connected to the left wall 86 and the right wall 88 via pins, adhesive, riveting, or other connecting mechanisms. The handle 98 may be made of metal, plastic, wood, any other materials, or a combination thereof. A grip 100 may be provided thereon to enable the user to carry the fabric and plastic container assembly 11. The grip 100 may be made of rubber, plastic, or other anti-slip materials, or may have rubber, plastic, foam, or other anti-slip materials provided on the surface thereof. Grooves or ribs may also be provided on the grip 100 to facilitate the grasping of the grip 100. The storage portion 82 may optionally be constructed and arranged to have other shapes, forms, or configurations.

[0025] Fig. 9 shows an exploded view of an embodi-

ment of the partially rigid and partially fabric container assembly 11. In this embodiment, the container assembly 11 is formed by connecting the fabric material 16 to the rigid structure or rigid bottom portion 12 via the plastic connector structure 18. The fabric material 16 may be connected to the plastic connector structure 18 in a similar manner as described above. The rigid structure 12 may also be connected to the plastic connector structure 18 in a similar manner as described above.

[0026] In this embodiment, the partially rigid and partially fabric container assembly 11 includes the storage portion 82. The storage portion 82 has a front wall 100, a back wall 102, a left wall 104, and a right wall 106 made from the fabric material 16. In some embodiments, the storage portion 82 may be formed from the fabric material 16 without reinforcing material so that the storage portion 82 may be collapsible on top of the rigid structure 12. In some embodiments, reinforcing material may be provided with the fabric material 16 so that the storage portion 82 may stand upright.

[0027] The storage portion 82 may be provided with the handle 98 that is constructed and arranged to facilitate the lifting and carrying of the container assembly 11. Although a grip 100 is not shown in this embodiment, a grip 100 may be provided on other embodiments, as described above with respect to the embodiment shown in Fig. 8. The handle 98 may be connected to the storage portion 82 using screws, pins, rivets, or other connections. Openings 91 may be provided on each side of the handle 98 to enable access to the interior space 92 of the container assembly 11 where articles can be stored. In some embodiments, flaps or covers (not shown) may optionally be provided to cover the openings 91. The covers may be moveable between a closed position to prevent access to the interior space 92 and an open position to permit access to the interior space 92 through the openings 91. The covers may be made of the same material as fabric material 16, or may be made of other materials. The covers may optionally be made of relatively rigid materials in comparison to the relatively flexible fabric material 16, such as, for example, plastic, rubber, or a combination thereof. The covers may optionally be attached to the storage portion 82 as one piece, two pieces, or multiple pieces. The covers may be closed using Velcro, buckles, latches, locks, hooks, buttons, snap buttons, zippers, pins, or other connections.

[0028] In this embodiment, the storage portion 82 also includes pockets 104 attached thereon. The pockets 104 may include a body portion 108 and a cover portion 106. The cover portion 106 may be moveable between a closed position preventing access to an interior space of the body portion 108 and an open position permitting access to the interior space of the body portion 108. In the closed position, the cover portion 106 may be connected to the body portion 108 via Velcro, buckles, latches, locks, hooks, buttons, snap buttons, zippers, pins, or other connections.

[0029] The rigid structure 12 includes the protrusions 35 that may be used to latch the rigid structure 12 to a base container of a rolling container assembly, as mentioned above. Thus, the partially rigid and partially fabric container assembly 11 formed from the fabric material 16, the plastic connector structure 18, and the rigid structure 12 may be used in a rolling container assembly or carried and used separately.

[0030] Although the invention has been described in detail for the purpose of illustration based on what is currently considered to be the most practical and preferred embodiments, it is to be understood that such detail is solely for that purpose and that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover modifications and equivalent arrangements that are within the spirit and scope of the appended claims. For example, it is to be understood that the present invention contemplates that, to the extent possible, one or more features of any embodiment may be combined with one or more features of any other embodiment.

Claims

1. A container assembly comprising:

   a relatively rigid bottom portion having first connector elements;
   a peripheral plastic connector structure having second connector elements constructed and arranged to connect to the first connector elements, so as to connect the rigid bottom portion to the peripheral plastic connector structure;
   side walls made of fabric, the fabric side walls being sewn to the peripheral plastic connector structure;
   a handle constructed and arranged to enable a user to carry the partially rigid and partially fabric container assembly.

2. The container assembly of claim 1, wherein the first connector elements and second connector elements comprise snap-fit connections for connecting the relatively rigid bottom portion to the plastic connector structure.

3. The container assembly of claim 1, wherein the relatively rigid bottom portion comprises plastic.

4. The container assembly of claim 1, wherein the relatively rigid bottom portion comprises rubber.

5. The container assembly of claim 1, wherein the fabric comprises canvas.

6. The container assembly of claim 1, wherein the fabric comprises leather.

7. The container assembly of claim 1, wherein the fabric comprises denim.

8. The container assembly of claim 1, wherein the fabric comprises cotton.

9. The container assembly of claim 1, wherein the first connector elements comprise protrusions.

10. The container assembly of claim 1, wherein the second connector elements comprise openings.

11. The container assembly of claim 1, wherein the relatively rigid bottom portion comprises:

a first wall, the first connector elements being positioned on the first wall;
a second wall constructed and arranged to extend parallel to the first wall, wherein the first and second walls define a receiving groove for a portion of the plastic connector structure.

12. The container assembly of claim 1, further comprising a handle constructed and arranged to enable a user to carry the container assembly.

13. The container assembly of claim 1, wherein the plastic connector structure comprises a ring structure.

14. The container assembly of claim 13, wherein the ring structure is rectangular.

15. The container assembly of claim 1, further comprising pockets attached to at least one of the sidewalls.

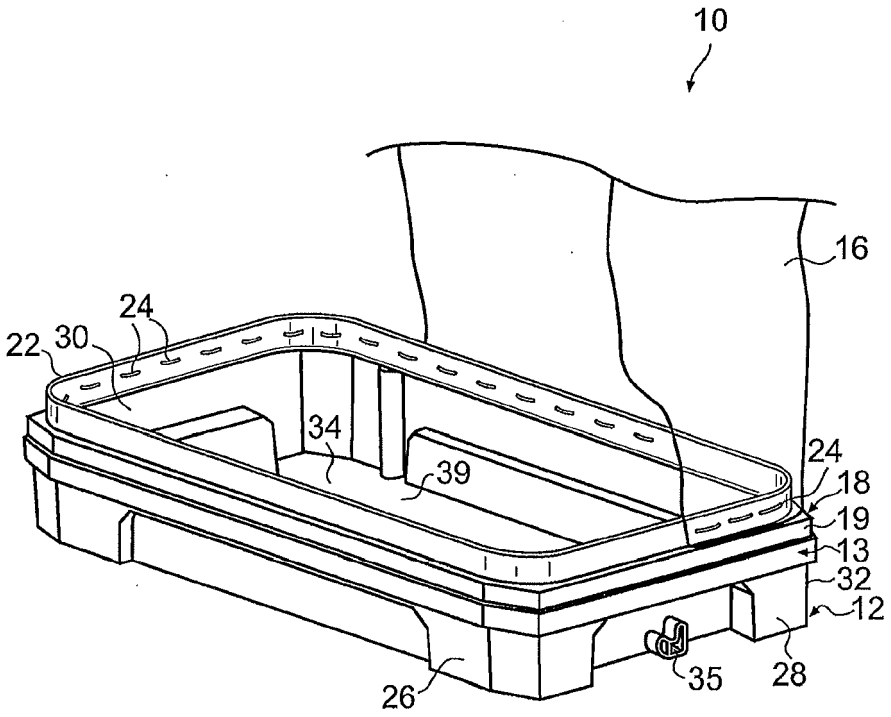


FIG. 1

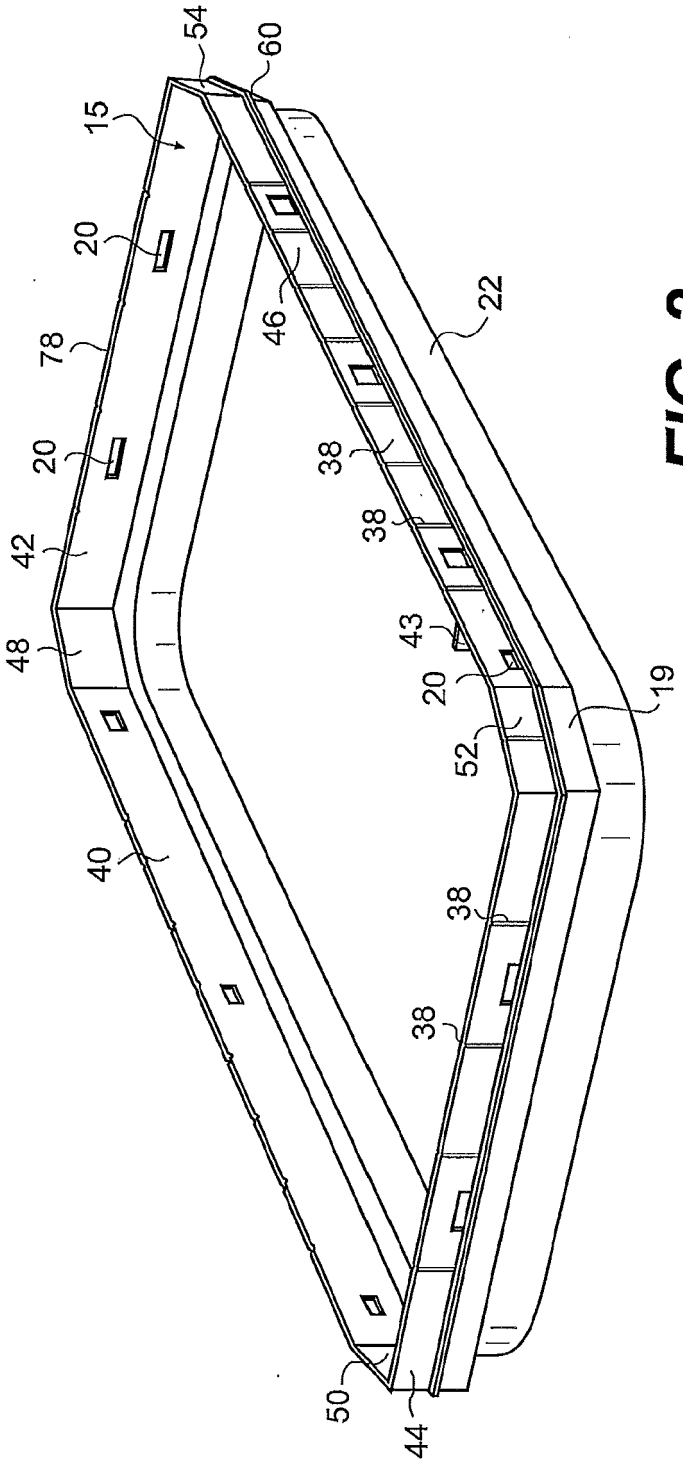


FIG. 2

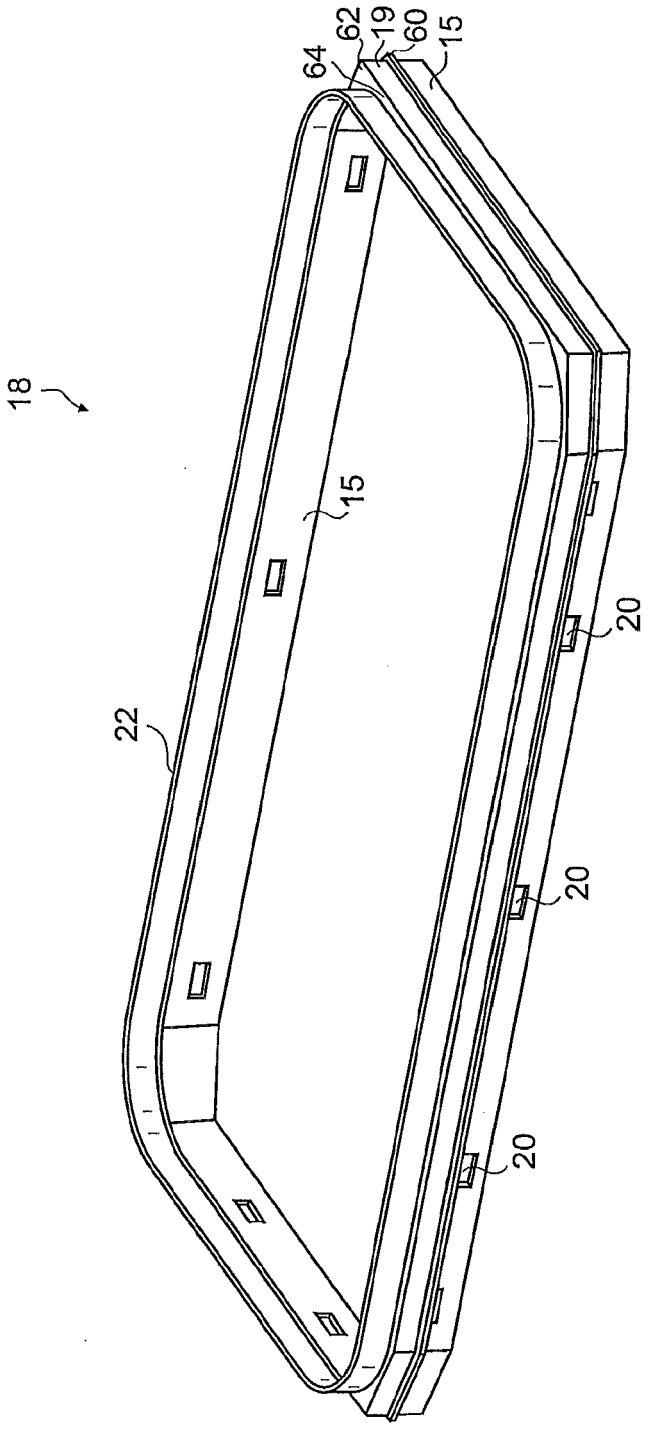


FIG. 3

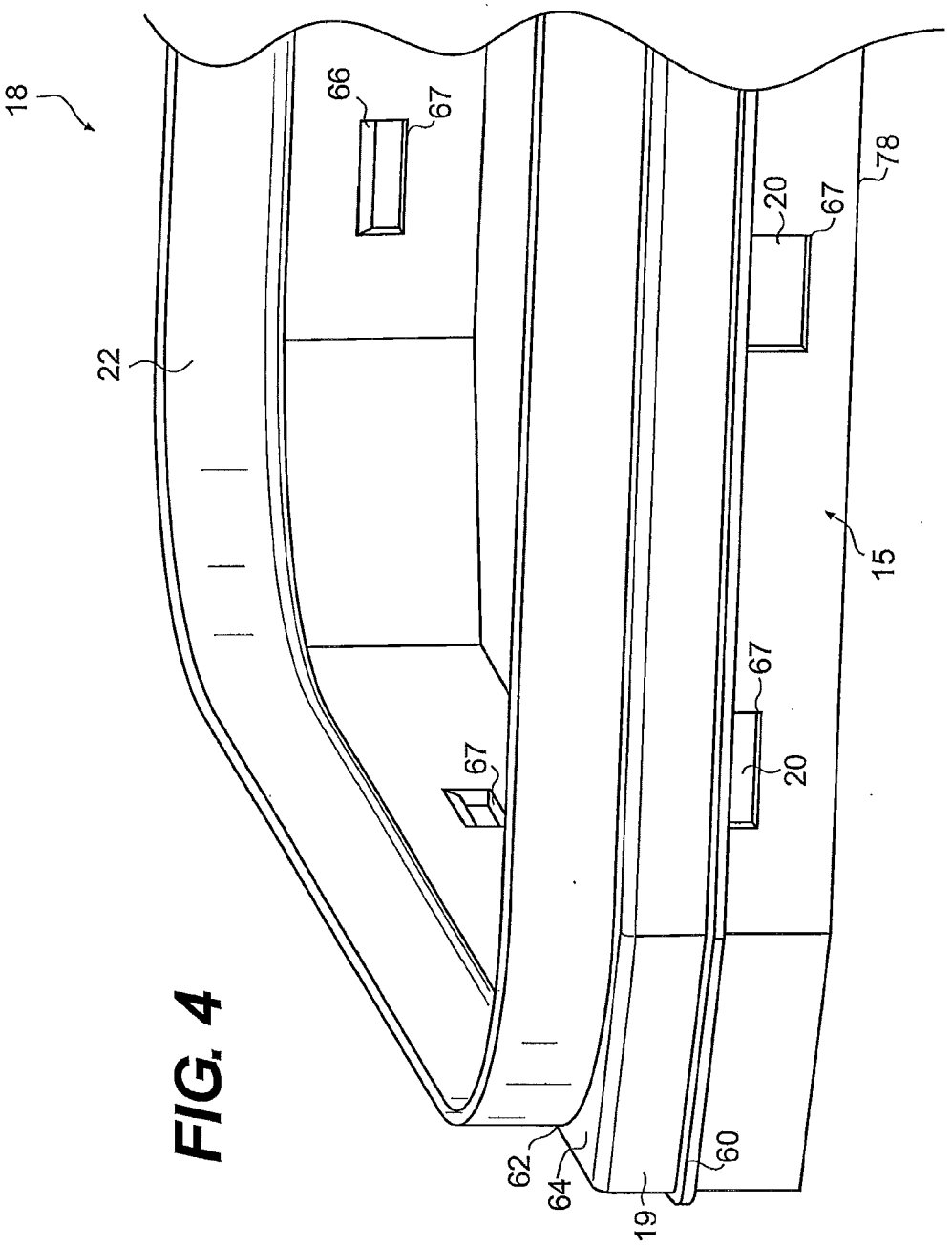


FIG. 4

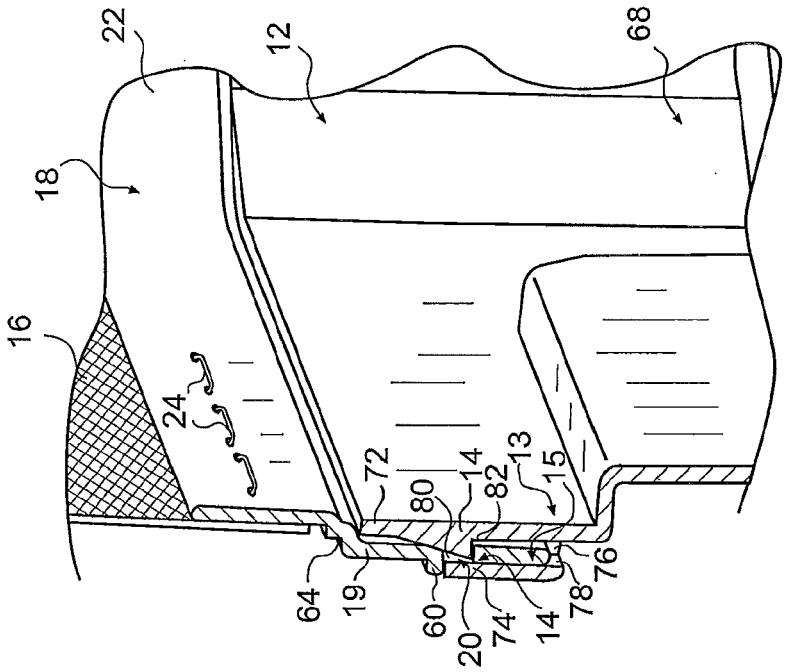
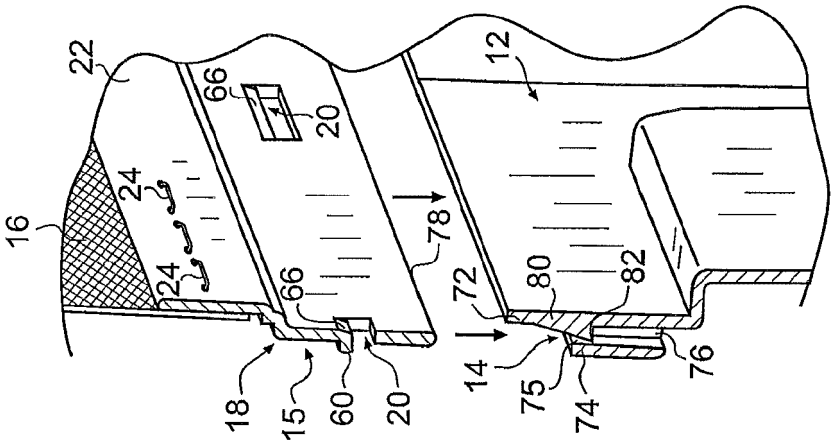


FIG. 5

FIG. 6



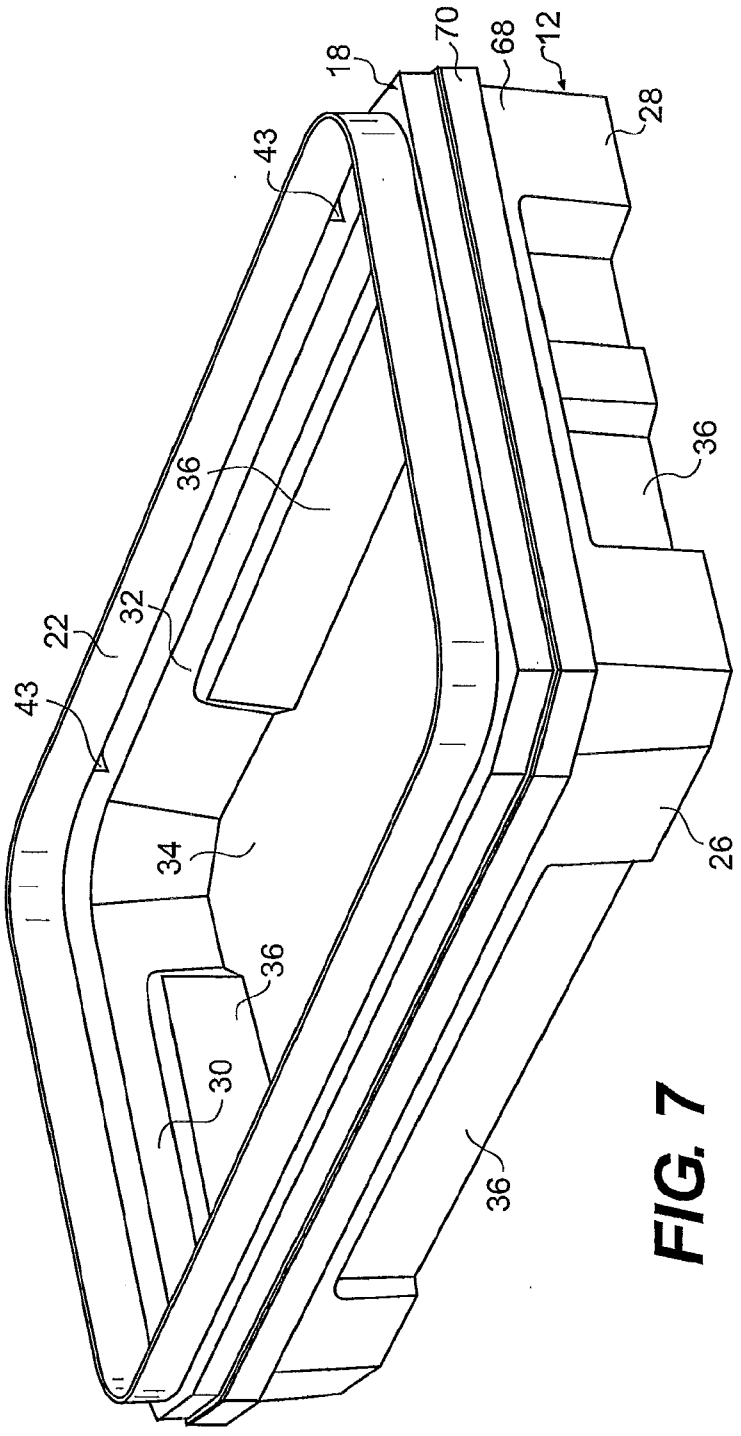


FIG. 7

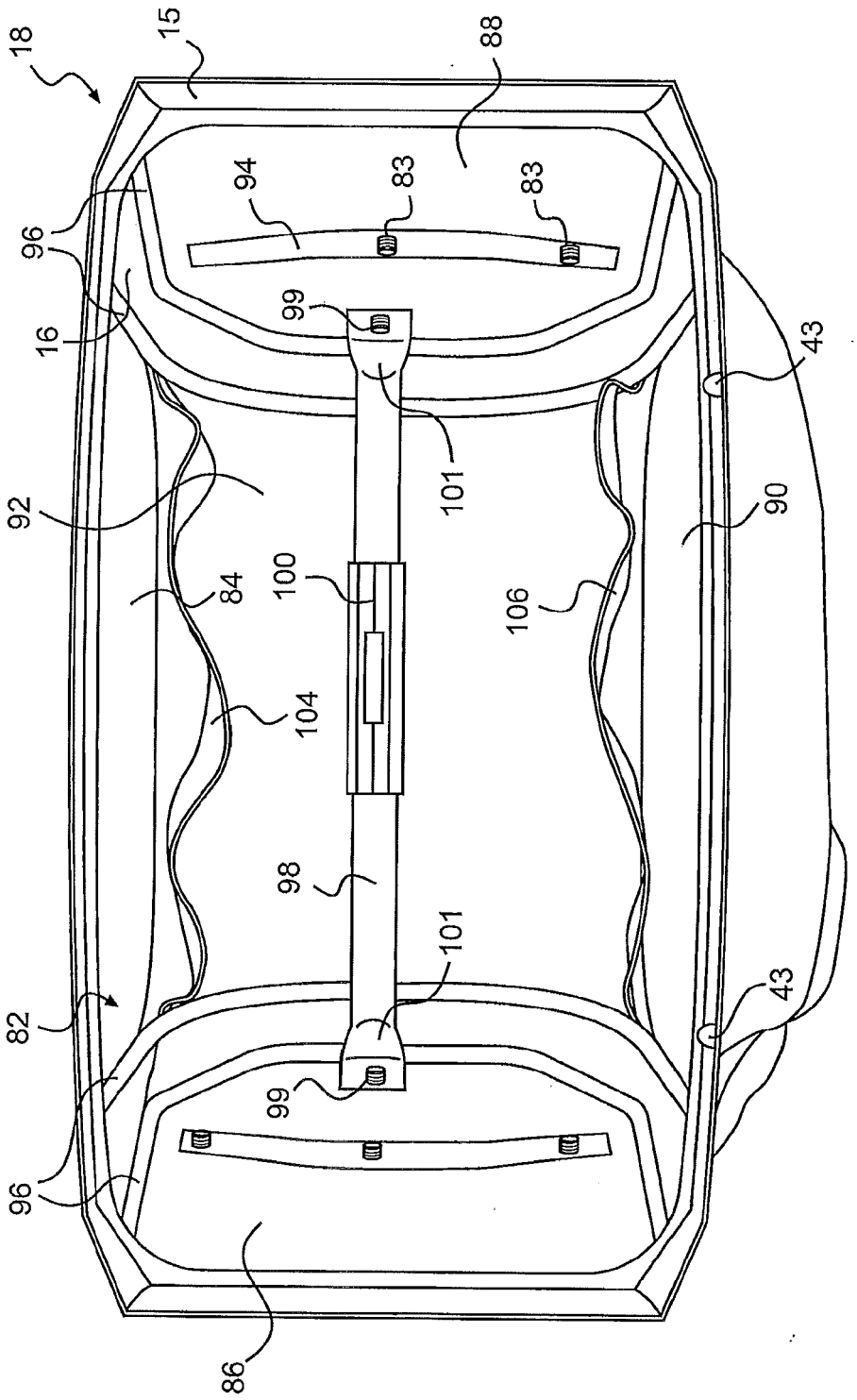

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FIG. 8

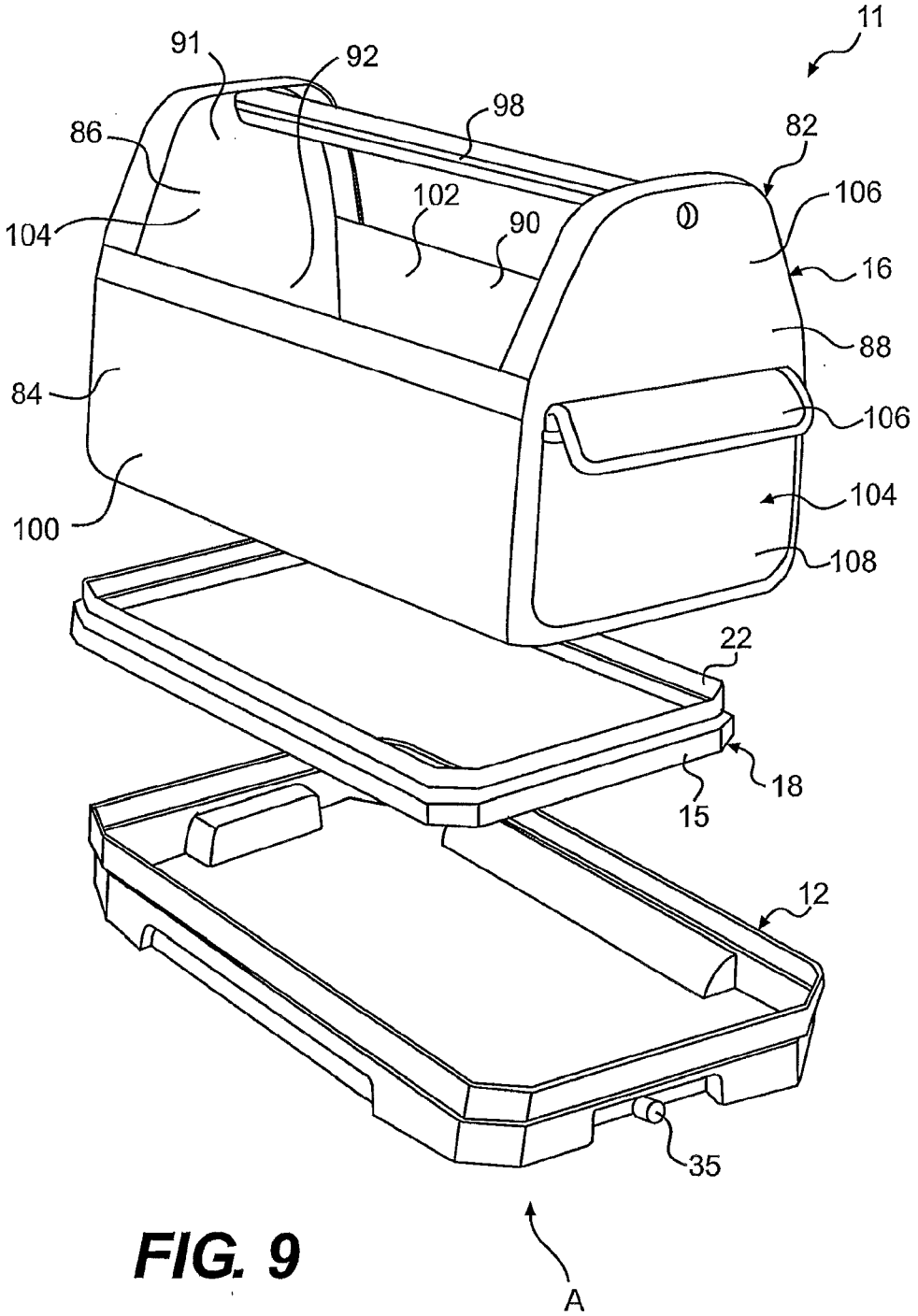
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FIG. 9

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 61290685 B **[0001]**
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