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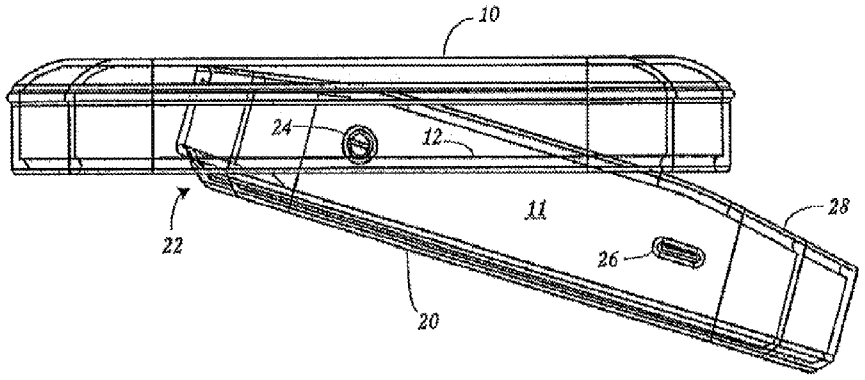
— *with international search report (Art. 21(3))*

(54) Title: POP AND SLIDE CONTAINER

FIGURE 8



(57) Abstract: Disclosed is a container comprising a lid (10) and a base (20). The lid has a top surface and a side wall (11) all about the perimeter of the top surface. The side wall has a lip (12) which may be formed from a rolled edge. The base has a bottom surface and a side wall (21). The side wall further includes a plurality of tapered sections (28), a plurality of retention bumps (26), and a plurality of pivot bumps (24). The lid is adapted to fit over the base such that the rolled edge abuts underneath the retention bumps and pivot bumps securing the lid in place when the container is closed. The rolled edge of the lid pivots about and slides along the pivot bumps when the container is in an open position to create an opening for accessing contents of the container.

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POP AND SLIDE CONTAINER

SUMMARY OF THE INVENTION

[0001] Disclosed is a container comprising a lid and a base. The lid has a top surface and a side wall all about the perimeter of the top surface. The side wall may terminate in a rolled edge. The base has a bottom surface and a side wall all about the perimeter of the bottom surface. The side wall may further include a plurality of tapered sections, a plurality of retention bumps that protrude out from the side wall, and a plurality of pivot bumps that protrude out from the side wall. The lid is adapted to fit over the base such that the rolled edge abuts underneath the retention bumps and pivot bumps securing the lid in place when the container is closed. The rolled edge of the lid pivots about and slides along the pivot bumps when the container is in an open position to create an opening for accessing contents of the container. The base further can further include a finger indent at one end such that a user can apply pressure simultaneously on the base and the lid at the same end of the container to cause the lid to release from the retention bumps positioned substantially at the other end of the container. The pivot bumps protrude out from the side wall of the base further than the retention bumps so as to let the rolled edge of the lid release from the retention bumps but not the pivot bumps.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002] Figure 1 is a perspective view of a pop and slide container comprised of a lid and a base according to an embodiment of the invention.

[0003] Figure 2 is a side view of the lid according to an embodiment of the invention.

[0004] Figure 3 is a side view of the base according to an embodiment of the invention.

[0005] Figure 4 is a perspective cross-sectional view of the lid according to an embodiment of the invention.

[0006] Figure 5 is a perspective view of the base according to an embodiment of the invention.

[0007] Figure 6 is a perspective cross-sectional view of the container according to an embodiment of the invention.

[0008] Figure 7 is a side view of the container in the closed position with hidden lines according to an embodiment of the invention.

[0009] Figure 8 is a side view of the container in the initial open position with hidden lines according to an embodiment of the invention.

[0010] Figure 9 is a side view of the container in an advanced open position with hidden lines according to an embodiment of the invention.

[0011] Figure 10 is a perspective view of the container in an advanced open position with hidden lines according to an embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Embodiments of the invention describe a container comprised of a base and a lid that is adapted to be held and manipulated by one hand. The container is opened and closed using a pop and slide motion with respect to the lid to expose the contents of the base.

[0013] Figure 1 is a perspective view of a pop and slide container in a closed position comprised of a lid 10 and a base 20 according to an embodiment of the invention. The lid 10 and base 20 each comprise a relatively flat surface and side wall 11, 21 that extends the entire perimeter of the surface area giving each component a depth dimension. The base 20 further includes a finger indent 22 area at one end that is adapted to receive a user finger during the opening process. In its closed position, the lid fits atop base and is held in place through a mechanical coupling of elements of the lid 10 and base 20. These elements are not visible in this figure but will be described further with reference to later figures.

[0014] Figure 2 is a side view of the lid 10 according to an embodiment of the invention. The surface area referenced earlier comprises the top of lid 10 while the side wall 11 about the perimeter of the surface area comprise what can be considered the side wall(s) of the container.

[0015] Figure 3 is a side view of the base 20 according to an embodiment of the invention. The side wall 21 extends upward and away from the base 20 surface area in a substantially perpendicular direction. Also shown are a pair of bumps that protrude outward from the side wall 21. The first bump is referred to as a pivot bump 24 and the second bump

is referred to as a retention bump 26. Identical bumps 24, 26 are also present on the side of the base not seen in this figure. The pivot bump 24 and retention bump 26 cooperate with a rolled edge on the side wall 11 of the lid 10 to create a means by which the container can be opened with one hand. Also of note are the tapered sections 28 of the top line of the side wall 21. As will be described in more detail later, the taper closest to the pivot bump 24 is functionally important to the opening and closing of the container.

[0016] Figure 4 is a perspective cross-sectional view of the lid 10 according to an embodiment of the invention. This view illustrates how the side wall 11 terminates in a rolled edge 12. The rolled edge 12 creates a lip that can be coupled with the pivot bump 24 and the retention bump 26 of base 20. It is to be understood that the lip could be created using an edge other than the rolled edge. Different materials (plastic, paperboard etc...) may be capable of creating this lip using a different edge structure. It is to be understood that manufacturing preferences may adjust the structure depending upon the material used in the lid and or base.

[0017] Figure 5 is a perspective view of the base 20 according to an embodiment of the invention. All of the elements and features previously described for base 20 are present. The side wall 21 circumnavigates the perimeter of the surface area of base 20. The tapered sections 28 define high and low points about the side wall 21. The pivot bump 24 and retention bump 26 are also visible. This view further shows that the pivot bump 24 protrudes slightly further out from the side wall 21 than the retention bump 26. As will be described in more detail later, this allows the

lip formed by the rolled edge 12 of the lid 10 to release from the retention bump 26 but stay in cooperative contact with the pivot bump 24.

[0018] Figure 6 is a perspective cross-sectional view of the container according to an embodiment of the invention. This illustration shows the container in its closed position. The lid 10 fits atop the base 20 such that the lip formed by rolled edge 12 of the lid 10 fits over and is contact with the pivot bump 24 and retention bump 26 that protrude from side wall 21.

[0019] Figure 7 is a side view of the container in the closed position with hidden lines according to an embodiment of the invention. This figure provides a good illustration of the lip formed by the rolled edge 12 in cooperative contact with the pivot bump 24 and the retention bump 26. This cooperative contact on both sides of the container secure the lid 10 to the base 20.

[0020] Figure 8 is a side view of the container in the initial open position with hidden lines according to an embodiment of the invention. This figure illustrates the position of the container immediately following the "pop" motion that a user applies to open the container. The user pinches the end of the container having the finger indent 22. The pinching action causes the rolled edge 12 at the far end of the lid to break free of the retention bump 26 while the lip of the rolled edge 12 remains in contact with the pivot bump 24. The circular geometry of pivot bump 24 allows the lip of the rolled edge to pivot about pivot bump 24.

[0021] Figure 9 is a side view of the container in an advanced open position with hidden lines according to an embodiment of the invention. In this illustration, the lid 10 has been moved back in a sliding motion to

provide more access to the base 20. The tapered section 28 provides a degree of clearance for the lid 10 to pivot. The steeper the slope of the tapered section 28, the further the lid 10 can be moved relative to the base 20 to expose more of the open base 20. The lip of the rolled edge 12 remains in contact with the pivot bump 24. The lid 10 can continue to move away from the base 20 until the lip of the rolled edge 12 encounters to much resistance from the base 20 such that further movement will cause the lid to break free of the pivot bump 24.

[0022] Figure 10 is a perspective view of the container in an advanced open position with hidden lines according to an embodiment of the invention. This figure is essentially a perspective view of Figure 9 and further shows the cooperative relationship between the rolled edge 12 and the pivot bumps 24.

[0023] In operation, a user will grasp the container in one hand such that a finger or thumb is positioned within finger indent 22. Using a pinching motion, the user presses against the finger indent 22 of base 20 and the top of lid 10. This causes the opposite end of lid 10 to "pop" up after a sufficient force has released the rolled edge 12 from the retention bump 26. The user can then pull the lid 10 back in a sliding motion to partially reveal the base 20. The lip formed by the rolled edge 12 of lid 10 remains in cooperative contact with pivot bump 24 of base 20. The tapered sections 28 of side wall 21 of base 20 allow the lid room to slide and expose a portion of the base 20 such that the user can access the contents of the base 20.

[0024] To close the container, the user slides the lid 10 back atop base 20 and presses downward sufficiently to cause the rolled edge to snap over and become secured against retention bump 26 of base 20.

[0025] It is to be understood that a variety of materials may be used to make this package, including but not limited to various types of metal, tin, plastic, and paperboard. The lip on the top may be a rolled edge, a divot, an undercut, a ledge or any other structure that would provide a means of retainment.

[0026] It is believed that the present invention includes many other embodiments that may not be herein described in detail, but would nonetheless be appreciated by those skilled in the art from the disclosures made. Accordingly, this disclosure should not be read as being limited only to the foregoing examples or only to the designated embodiments.

Claims:

1. A container comprising:

a lid having a top surface and a side wall wherein the side wall has a lip; and

a base having a bottom surface and a side wall, wherein the side wall includes a plurality of tapered sections, a plurality of retention bumps that protrude out from the side wall, and a plurality of pivot bumps that protrude out from the side wall,

wherein the lid fits over the base such that the lip abuts underneath the retention bumps and pivot bumps securing the lid in place when the container is closed, and wherein the lip of the lid pivots about and slides along the pivot bumps when the container is in an open position to create an opening for accessing contents of the container.

2. The container of claim 1 wherein the base further comprises a finger indent at one end of the base such that a user can apply pressure simultaneously on the base and the lid at the same end of the container to cause the lid to release from the retention bumps positioned substantially at the other end of the container.

3. The container of claim 1 wherein the pivot bumps protrude out from the side wall of the base further than the retention bumps.

4. The container of claim 1 wherein the lip is formed from a rolled edge.

5. A container comprising:

a lid having a top surface and a side wall wherein the side wall terminates in a rolled edge; and

a base having a bottom surface and a side wall, wherein the side wall includes a plurality of tapered sections, a plurality of retention bumps that protrude out from the side wall, and a plurality of pivot bumps that protrude out from the side wall,

wherein the lid fits over the base such that the rolled edge abuts underneath the retention bumps and pivot bumps securing the lid in place when the container is closed, and wherein the rolled edge of the lid pivots about and slides along the pivot bumps when the container is in an open position to create an opening for accessing contents of the container.

6. The container of claim 5 wherein the base further comprises a finger indent at one end of the base such that a user can apply pressure simultaneously on the base and the lid at the same end of the container to cause the lid to release from the retention bumps positioned substantially at the other end of the container.

7. The container of claim 5 wherein the pivot bumps protrude out from the side wall of the base further than the retention bumps.

FIGURE 1

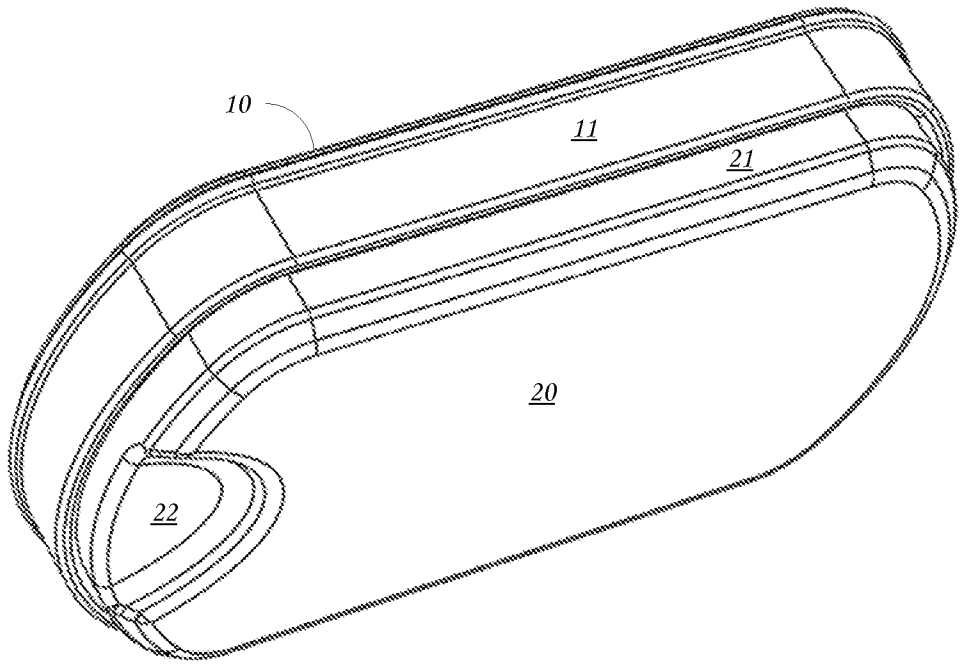


FIGURE 2

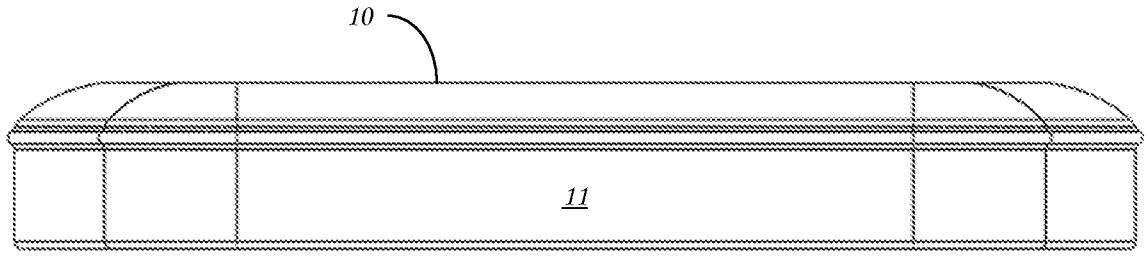


FIGURE 3

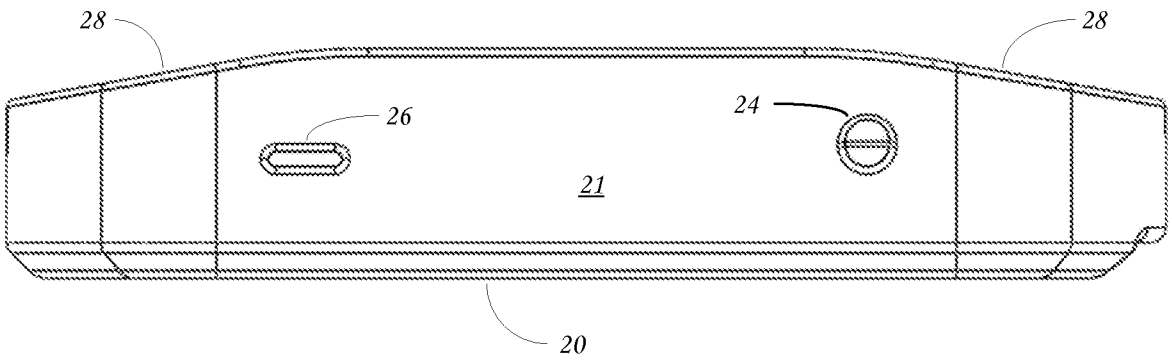


FIGURE 4

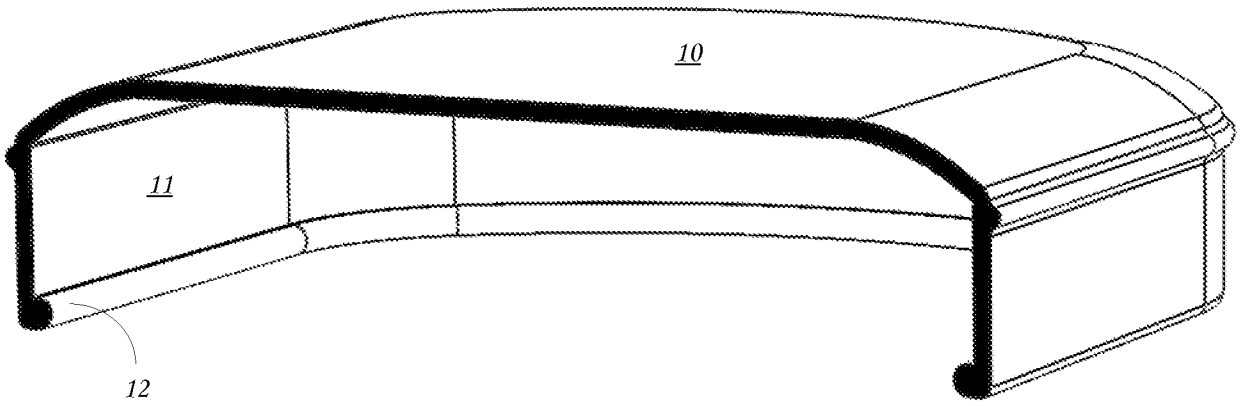


FIGURE 5

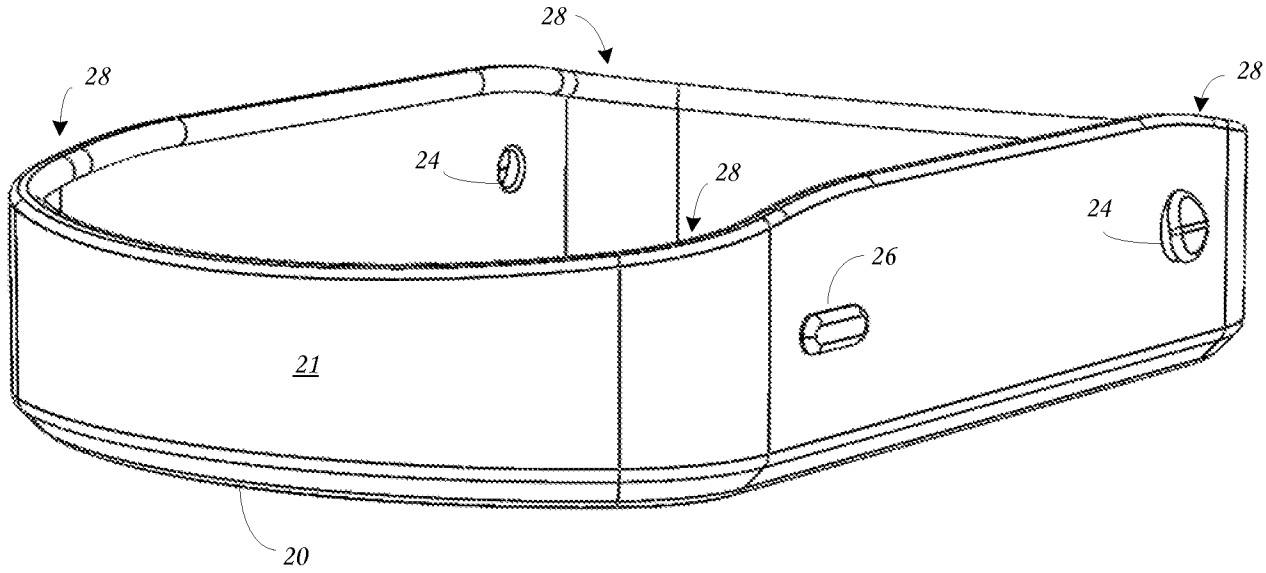


FIGURE 6

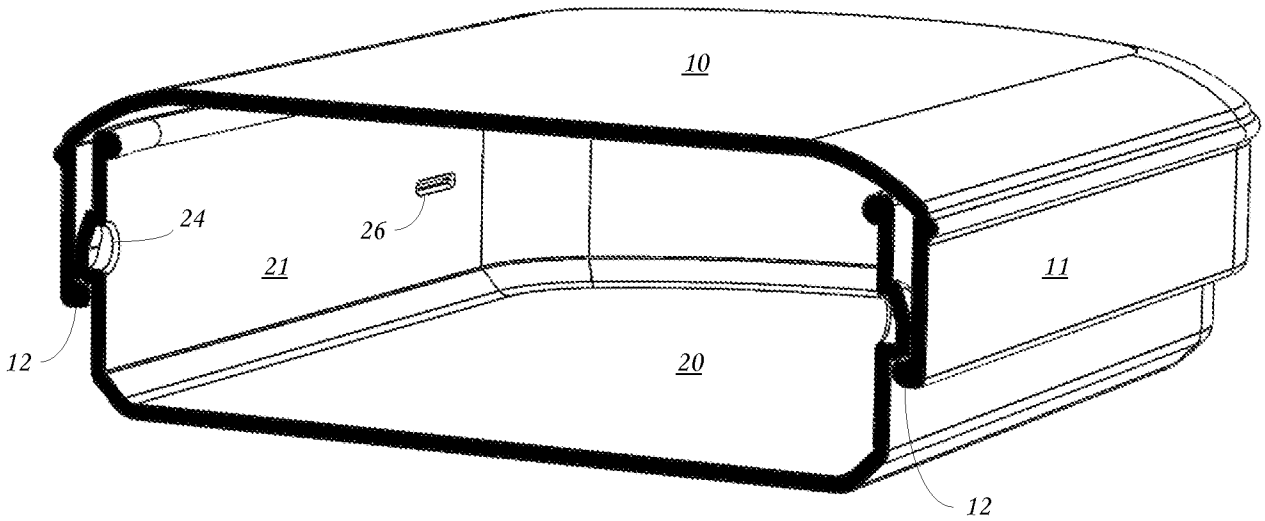


FIGURE 7

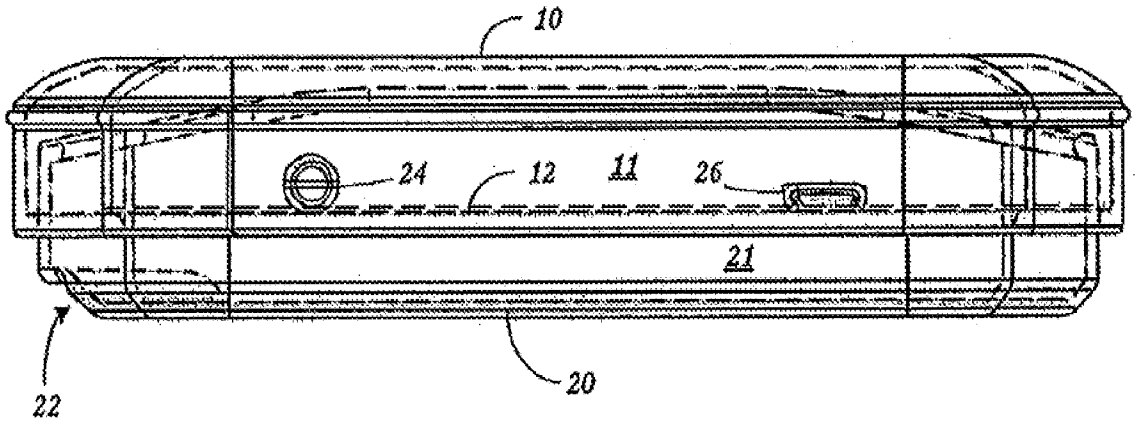


FIGURE 8

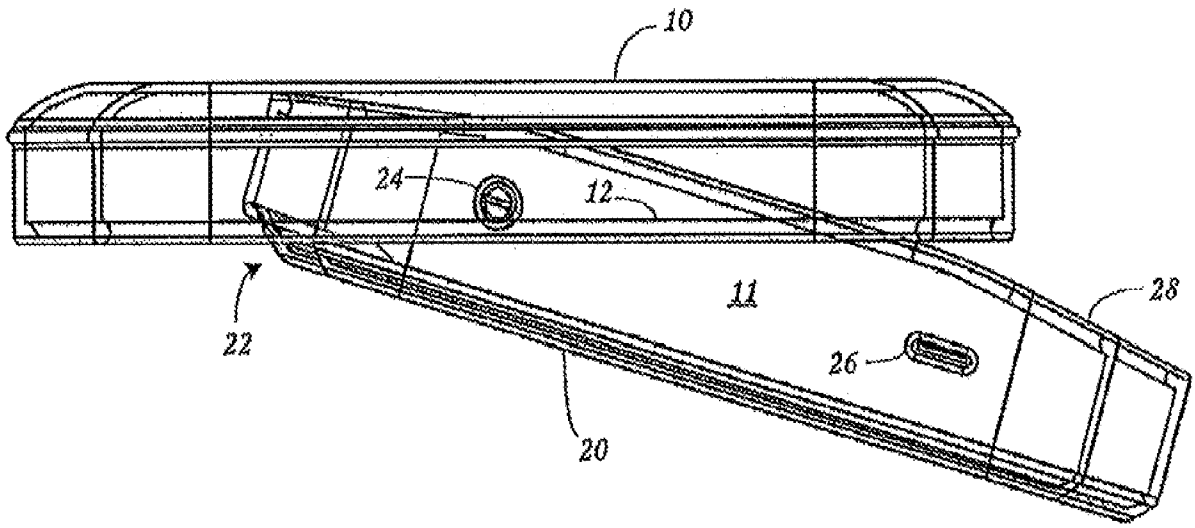


FIGURE 9

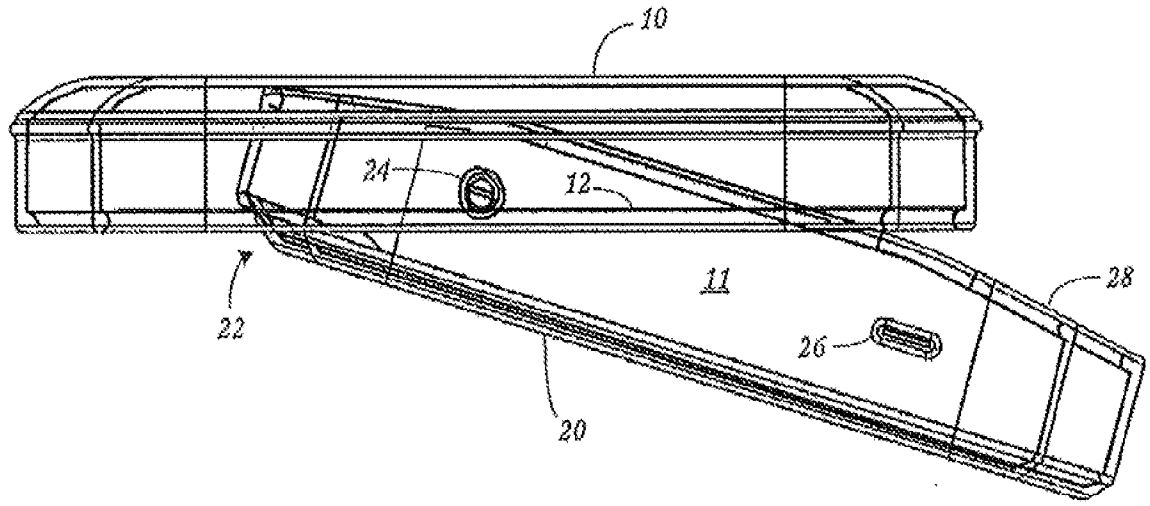
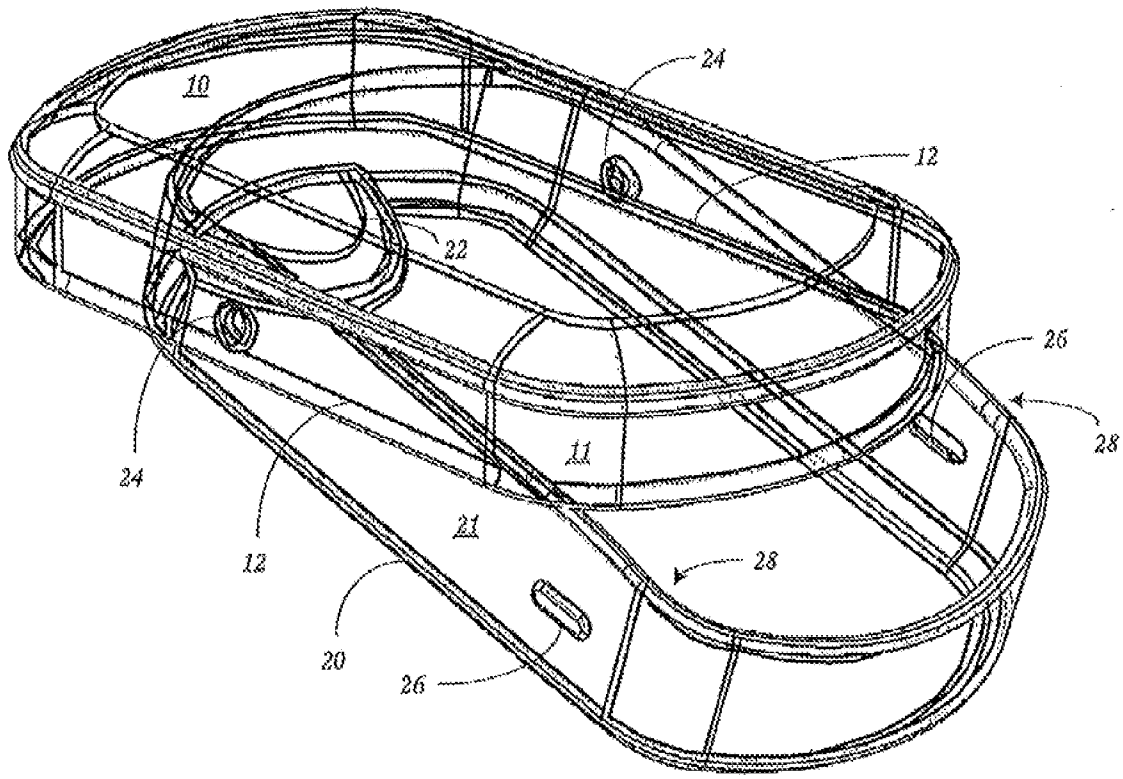


FIGURE 10



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/059474

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D43/16 B65D43/20
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009/236257 A1 (CROSS HARLEY [US]) 24 September 2009 (2009-09-24) paragraph [0024] - paragraph [0028] paragraph [0032]; figures 1, 3	1
A	US 391 145 A (HARDIN) 16 October 1888 (1888-10-16) page 1, line 32 - line 42; figures	1
A	US 2 661 119 A (SPIESS JR NEWTON E ET AL) 1 December 1953 (1953-12-01) column 3, line 36 - line 60; figures 2a-2d	1

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
17 March 2011	24/03/2011

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2010/059474

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2661119 A	01-12-1953	NONE	