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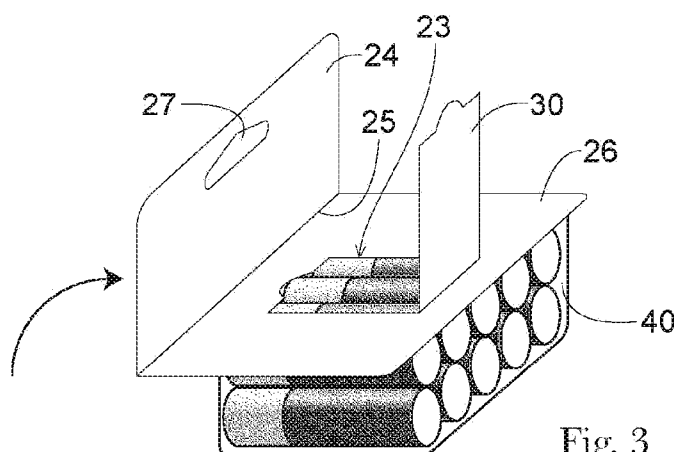


Fig. 3

(57) Abstract: A reclosable display package comprises a foldable card and a three-dimensional shell affixed thereto. The card has a front side and a backside, and an upper section and a lower section. The shell is affixed to the front side of the lower section to form a closed container therebetween to house a product. The upper section has an aperture formed therethrough to hang the package from a display hanger. The lower section has a tear portion formed therein to enable a user to open the container by partially separating and lifting the tear portion from the rest of the card. After a user has opened the package for the first time by separating and lifting the tear portion from the rest of the card, the user can reclose the package by folding the card so that the upper and lower sections' respective backsides face each other forming a fold therebetween, while inserting the tear portion through the aperture and into the fold to lock the upper and lower sections in a folded position, thereby securing the product inside the package.



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RECLOSABLE DISPLAY PACKAGE

FIELD OF THE INVENTION

5 This invention relates to display packages or systems designed for displaying and selling of consumer products, and more particularly to a reclosable display package.

BACKGROUND OF THE INVENTION

10 The present invention generally relates to packaging, and more specifically to recloseable blister packaging. Blister packages have been widely used for displaying products in retail stores. A typical blister package includes a three-dimensional thermoformed (usually thermoplastic) blister shell for receiving articles of merchandise, and a cardboard backing connected to the blister to close the shell with the merchandise inside.

15 Blister packages may be particularly convenient when used for displaying a quantity of relatively small individual articles, such as batteries, razors, toothbrush attachments, bolts, screws, and the like. These and the like products are typically used one (or several) at a time, while the rest of the products remain in the package. It is desirable, therefore, that the package can serve not only to display the merchandize, but also as a reclosable storage container.

20 There have been multiple attempts to create a reclosable blister package. For example, US 4,200,193 is directed to a reclosable blister-card container having a hinged attached closure flap including a locking tab. US 5,899,333 is directed to a blister package wherein a blister member, having a product-holding cavity, is secured to a substrate member by a bond line extending generally about the product-holding cavity. A tear strip, defined in one of the blister member and the substrate member has an opening tab, is devoid of fixed bonding to allow for
25 easy activation thereof to open the package. US 6,244,444 is directed to a battery package having a thermoformed thermoplastic clam-shell container with a lid that snaps closed on a battery-containing body. The lid has a peripheral skirt portions defining shoulders facing downwardly. A lower segment of a paperboard card is clasped between the lid and the body. The package includes a tape extending from the body onto the lid to close the package during
30 display. After the purchase, the tape can be broken and the card removed. US 6,308,832 is directed to a display package including a reclosable container. The package includes a housing defining a compartment to house a product and a lid for engaging the housing to close the compartment. The package further includes a planar display card having a tear portion therein adapted to allow for removal of the container from the display card. Once removed from the

display card, the reclosable container may be used without the display card to house the product. US 6,364,115 is directed to a product-display package for housing generally cylindrical products, such as batteries, and preventing rotation of the products. The package comprises a container including a plurality of parallel pockets configured to receive a product. Inward protrusions are
5 formed in first and second ends to hold the products in place and prevent their rotation, and additional protrusions are formed in the package to contact side walls of the product to further prevent rotation. US 6,615,986 is directed to a battery package for holding a battery dispenser and batteries including a backing and a battery holder. The backing has a closed position for displaying the battery dispenser and the batteries and an open position allowing a user to read the
10 instructions. US 6,736,267 is directed to a product-display package comprising a display card having a reinforced, closed-loop, hanger hole that is resistant to tear. The display card has a tape reinforcement layer adhered to the main body in a region adjacent to the hanger hole. US 6,016,914 is directed to a blister package with reclosable card, wherein a center portion of the card comprises a closure panel pivotable between an open position providing access to contents
15 of the package and a closed position, and a locking tab extending upwardly therefrom and positioned for folding into and out of the slot and sized for an interference fit with the slot to releasably maintain the panel in a closed position. US 7, 506,761 is directed to a (drug) display card for displaying a product on a hanging support, wherein the card has a fold line separating an upper section from a lower section of the card such that the upper section is folded downwardly
20 to lie parallel to and in contact with the lower portion. The upper portion is integrated with the lower portion to secure the upper portion in place. The upper and lower portions include hanging holes that are in alignment with one another to form a single through passage when the card is folded. US 7,571,813 is directed to a battery package comprising a backing having a first area with an extending first compartment and a second area with an extending second compartment,
25 both compartments containing batteries. The backing has a first position in which the compartments are closed and a second position in which the compartments are open.

Some of the above attempts are believed to have at least one of the following shortcomings: sensitivity to wear and as a result lost ability to remain closed after being repeatedly opened (e.g., caused by deformation of interlocking means); a relatively high cost of
30 the materials used and/or tools needed to form the packaging; a relatively large number of components, and complexity of the packaging and a number of steps necessary for the conversion of the display package into the reclosable container and the associated lack of convenience of the conversion (at least for some less dexterous consumers); and the failure to

utilize the “display” elements, such, for example, as a hanger hole, more universally, for multiple purposes including the original “display” function and the subsequent “storage” functions.

The present invention is directed to a reclosable display package having an improved yet relatively simple and cost-effective arrangement that utilizes the display’s parts as multi-
5 functional elements, acting as “display” elements when the package is displayed in a store and/or originally sealed and as interlocking “storage” elements when the package, after being unsealed, is reclosed in a locking arrangement of its multi-functional parts.

SUMMARY OF THE INVENTION

10 A reclosable display package of the present invention comprises a foldable card having a front side and a backside, an upper section and a lower section adjacent to the upper section along a first fold line, and a three-dimensional shell affixed to the lower section of the card to form, between the card and the shell, a container configured to house a product. The shell may have a peripheral flange and be attached to the card with the help of, and along, such a flange.

15 The upper section of the card has an aperture therethrough, and the lower section of the card has a tear portion formed therein and structured to enable a user to partially separate the tear portion from the rest of the lower section thereby forming an opening in the container. The tear portion can be separated, for example, along lines of weakness formed in the lower section of the card. When separated, the tear portion has a proximate end adjacent to the card and a free distant
20 end opposite to the proximate end. The lines of weakness can be configured to provide variable configurations of the opening. For example, the package can be designed to offer a user at least two alternative configurations of the opening in the package. The opening is sized to allow a user to conveniently remove the product from the package.

The upper section of the card is structured and configured to articulate around the fold line
25 to abut the lower section of the card, thereby at least partially reclosing the container; and the tear portion is structured and configured to be folded back towards the opening thereby at least partially reclosing the opening while engaging, through the aperture, the upper section to interlock the upper and lower sections in a fully folded position and thus reclose the container.

The display package, therefore, can have (a) a display configuration in which the card is
30 unfolded and the container is closed, (b) an open configuration in which the tear portion is partially separated from the rest of the lower section, thereby forming an opening in the container through which the product can be removed, and (c) a storage configuration in which the card is

folded so that the backside of the upper section faces the backside of the lower section and the tear portion of the lower section engages the upper section through the aperture in the upper section to interlock the upper and lower sections in a folded position.

Thus, the aperture of the upper section is a multi-functional element of the package's design: it acts as a display aperture when the package is displayed by being hanged from a display hanger inserted through the aperture, and as a locking element when the upper section of the card is folded upon the lower section and the tear portion engages the upper section to secure the card's folded position. The tear portion is also a multi-functional element: it acts as part of the backing card when the package is closed, as an initial opening element when it is being separated and lifted from the rest of the card to form an opening in the container, and as a locking element and a closure when the package is in the folded, storage configuration and the opening in the container is blocked by the mutually interlocked upper section and the tear portion, thereby preventing the product from falling out of the package.

The tear portion can be structured to articulate around a second fold line, formed in the lower section of the card, at the proximate end of the tear section. The second fold line can assist a user in lifting the tear portion up from the lower section of the card and otherwise manipulating the tear portion, for example, when directing it into the aperture of the upper section. The second fold line can be substantially parallel to the first fold line.

The card may be made of any suitable material, such as, for example, a cardboard. The shell may be made, for example, from a polymeric thermoformed material to form a blister. The card or the shell, or both, may be beneficially made of an eco-friendly biodegradable or recyclable material or materials. The card or the shell, or both, can beneficially be at least partially transparent or translucent – that is, at least a portion of at least one of the shell and the card can be transparent or translucent.

The tear portion can include at least one tab formed therein and configured to facilitate partial separation of the tear portion from the rest of the card as well as locking engagement between the tear portion and the upper section through the display aperture. A third fold line can be formed in the tear portion, adjacent to the tab. The third fold line can be substantially parallel to the first fold line or the second fold line.

A vast variety of products can be used with the package of the invention. One particularly beneficial use of the package is to adapt it for housing electrical batteries, such as AA, AAA, and others.

BRIEF DESCRIPTION OF THE DRAWINGS

While the specification concludes with claims particularly pointing out and distinctly claiming the subject matter which is regarded as forming the present invention, it is believed that the invention will be better understood from the following description taken in conjunction with the accompanying drawings.

Fig. 1 is a schematic perspective view of an embodiment of the invention's reclosable display package in a display (unfolded, or planar) configuration.

Fig. 2 is a schematic perspective view of the embodiment shown in Fig. 1, showing the package in an open configuration, wherein a tear portion in a lower section of a card is partially separated therefrom to form an opening in a container for removing a product therethrough.

Fig. 3 is a schematic perspective view of the embodiment shown in Figs. 1 and 2, wherein the card is partially folded along a first fold line, dividing the card into an upper section and the lower section.

Fig. 4 is a schematic perspective view of the embodiment shown in Figs. 1–3, wherein an aperture in the upper section of the card is in a position to engage the tear portion of the lower section of the card.

Fig. 5 is a schematic perspective view of the embodiment shown in Figs. 1–4, wherein the tear portion of the lower section partially engages the aperture in the upper section.

Fig. 6 is a schematic perspective view of the embodiment shown in Figs. 1–5, showing the package in a storage configuration, wherein the upper portion is fully folded upon the lower portion and the tear portion of the lower section fully engages the aperture of the upper section, thereby locking the upper section and the lower section of the card in a fully folded position.

Fig. 7 is a schematic perspective view of another embodiment of the invention's package, similar to the view of Fig. 3, wherein the tear portion includes a tab and lines of weakness formed in the lower section offer variable configurations of an opening formed therein by the separated tear portion.

Fig. 7A is a schematic perspective view of the embodiment shown in Fig. 7, showing alternative shape (relative to the one in shown in Fig. 7) of the opening in the lower section.

Fig. 8 is a schematic perspective view of the embodiment shown in Fig. 7, wherein the tear portion partially engages the aperture in the upper section.

Fig. 9 is a schematic side view of an embodiment of the invention's package.

Fig. 10 is a schematic front view of an embodiment of the invention's package.

5 Fig. 11 is an exemplary cutout model of an embodiment of the package's card.

Fig. 12 is a schematic representation of an embodiment of the package displayed on a display rack in a store.

DETAILED DESCRIPTION OF THE INVENTION

10 A reclosable display package 10 of the present invention, shown in Figs. 1–10, generally comprises a foldable backing card, or simply “card,” 20 and a three-dimensional shell 40 affixed to the card 20 to form therebetween a container for holding a product 41. The card 20 may be made of any suitable material, such as, for example, a cardboard, or any other eco-friendly recyclable or biodegradable material or materials. Non-limiting examples of the card's materials
15 include those comprising: sylvacycle paperboard; solid bleached sulfate paperboard (SBS); solid unbleached paperboard (SUS); chipboard; clay-coated paperboards (such as News Back (CCNB) and Kraft Back (CCKB); fluted and non-fluted corrugate; and bamboo. The card 20 may comprise, at least partially, a material that is transparent or translucent. The composite card 20, i.e., the card 20 made of two or more materials, or including portions made of different materials,
20 combined together, is also contemplated in the present invention.

The card 20 has an upper section 24 and a lower section 26. One skilled in the art will appreciate that the terms “upper” section and “lower” section are used herein conventionally, in relation to the package as typically displayed in a store when it is hung from a display bracket rod, Fig. 12. A first fold line 25 can be beneficially provided in the card 20 to ensure that the
25 card 20 will be folded in a predetermined manner. When present, the first fold line 25 divides the card 20 into the upper section 24 and the lower section 26. The card 20 further has a front side 21 and a backside 22, which is opposite to the front side 21 (Fig. 9). The card 20 is structured to be folded so that its backside 22 is inside the fold while the three-dimensional shell 40 is outside the fold. Both the front side 21 and the backside 22 can be adapted to be used for printing
30 instructions, logos, advertisements, and the like.

The first fold line 25 may be formed using any means known in the art. For example, the first fold line 25 may be embossed to comprise a single uninterrupted linear depression, or a

series of depressions in the card 20. Alternatively or additionally, the first fold line 25 may be formed by a plurality of holes, either blind holes or through-holes, or perforations, in the card 20. While not preferred, the first fold line 25 may simply be imprinted or be indicated by using graphics, without being structurally distinguishable from the rest of the card 20. In yet another embodiment (not shown), the upper and lower sections 24, 26 may be joined by a third element structured and configured to function as a hinge, in which instance the fold line 25 will be associated with the hinge. Regardless of the design, structure, and shape of the first fold line 25, or the method of forming it, the first fold line 25 should enable a user to bend the card 20 along the first fold line 25, and then rotate, or articulate, the upper section 24 backwards, towards the lower section 23, to fully fold the upper section 24 upon the lower section 26.

The three-dimensional shell 40 is affixed to the lower section 26 of the card 20 to form, between the shell 40 and the front side 21 of the card 20, a container configured to house a product 41. Non-limiting examples of the shell's material include those comprising: polyvinyl chloride (PVC); polyethylene (PE); polyethylene terephthalate (PET) (e.g., with glycol (PETG), amorphous (APET), recycled (RPET), utility (UPET), co-extrusion of APET and PETG (PETGAG)); polystyrene (PS); orientated polystyrene (OPS); polypropylene (PP); and orientated polypropylene (OPP). The shell 40 may be made of materials including various paperboard, such as, for example, sylvacycle paperboard, solid bleached sulfate paperboard (SBS), solid unbleached paperboard (SUS), and clay-coated paperboard; chipboard; fluted (or non-fluted) corrugate; and bamboo. The shell 40 comprising a composite material, i.e., the shell 40 made of two or more materials, or including portions made of different materials, combined together, is also contemplated in the present invention.

The shell 40 may comprise a thermoformed blister structure and may advantageously be at least partially transparent or translucent, allowing a user to view the product 41 disposed inside the container. Any suitable method of securely attaching the shell 40 to the card 20 may be used. Fig. 10, shows the shell 40 affixed, for example, adhesively, to the card 20 along the shell's peripheral flange 45 formed around the shell's perimeter. An embodiment (not shown) is contemplated in which the card 20 comprises at least two layers, and the shell 40 is affixed to the card by having its peripheral flange 45 sandwiched between two layers, as described, for example, in US 6,308,832.

The upper section 24 of the card 20 can have an aperture 27 adapted to function as a "display" hole when the package 10 is displayed by being hanged from a display hanger, or

bracket, inserted through the aperture 27. The aperture 27 may be conventionally structured as a closed-loop hole, or slot, through the card 20 and be supported, or reinforced, by an additional suitable reinforcing element 28, to strengthen an area of the upper section 24 adjacent to or immediately surrounding the aperture 27. The reinforcing element 28 can be made of the same material used for the card 20 and can be affixed to the upper section 24 above or around the aperture 27 by any known means, for example, adhesively. The reinforcing element 28 may be part of a cutout model (Fig. 11) of the card 20 and be simply folded to be disposed above the aperture 27 (Fig. 7).

The lower section 26 of the card 20 has a tear portion 30 formed therein and structured to be partially separated from the rest of the card's lower section 26, thereby forming an opening 23 in the lower section 26 of the card 20 – and hence in the container formed between the shell 40 and the card 20. As a result, the product 41, disposed in the container, can be easily accessed and removed from (or inserted back into) the package 10 through the opening 23. As used herein, the terms such as “the rest of the card” or “the rest of the lower portion” and permutations thereof are used to describe the card 20, or its lower portion 26, not including the tear portion 30 that has been partially separated therefrom.

The tear portion 30 may be formed, for example, by utilizing lines of weakness 31 formed in the lower portion 26. The lines of weakness 31 can be formed by using perforations or partial cuts, embossments, chemical treatment of selected surfaces, or any other means known in the art. The tear portion 30 has mutually opposite a proximate end 30a and a distal end 30b (Fig. 8). When the tear portion 30 is partially separated and lifted from the rest of the lower portion 26, the proximate end 30a is disposed adjacent to the rest of the lower section 26, which is not included in the tear portion 30; and the distal end 30b is a free end opposite to the proximate end 30a.

The tear portion 30 – and hence the opening 23 – may have any suitable shape, which can be dictated by, among other things, the type, size, and shape of the product 41. In the exemplary embodiment of Figs. 1–6, wherein the package 10 is adapted for displaying and storing electrical batteries, such as, for example, AA or AAA batteries, the tear portion 30 and the opening 23 are shown to have a substantially rectangular general configuration, with a first tab 39 located at the distal end 30b of the tear portion 30. The first tab 39 may have any suitable shape, for example, be rounded or curved (as shown in the Figures) or have a rectangular, triangular, or any other desired shape. The first tab 39 is structured and configured to aid the user in partially separating and lifting the tear portion 30 from the rest of the lower section 26 and in guiding the partially

separated tear portion 30 into the aperture 27 of the upper section 24. An extended portion 29 of the opening 23, corresponding to the first tab 39, can assist the user in handling the product 41, such as batteries, while removing at least one battery at a time through the opening 23 (Fig. 7).

In the exemplary embodiment of Figs. 7 and 8, the tear portion 30 has a slightly more complex configuration relative to that shown in Figs. 1–6, which can be described, taken as a whole, as comprising two combined geometric elements: generally an irregular polygon 36 and generally a rectangle 34, both having curved corners. One skilled in the art will appreciate that any suitable shapes, including, without limitation, circular, trapezoid, tetragonal, curved, rectangular, and rhomboid, including symmetrical shapes (as shown in the figures) as well as asymmetrical (not shown) shapes, of the tear portion 30 may be used, depending on the product's characteristics, available design and artistic choices, and other relevant considerations.

The lines of weakness 31 in the lower section 26 may be configured to offer variable configurations of the opening 23. In the exemplary embodiment of Figs. 7–8, the lower section 26 has the lines of weakness 31 that are configured to offer at least two configurations of the opening 23. More specifically, the lines of weakness 31 include parts 31a and 31b, as best shown in Fig. 7. This design offers several options of forming the opening 23. In one configuration, exemplified in Fig. 7, the opening 23 is formed along the lines of weakness 31 including parts 31a, while in another configuration, exemplified in Fig. 7A, the opening 23 is formed along the lines of weakness 31 including parts 31b. In the former configuration, shown in Fig. 7, segments 32 of the lower section 26 remain attached to the lower section 26, i.e., the segments 32 remain part of the lower section 26, after the tear portion 30 has been separated therefrom. If desired, these segments 32 may be allowed to remain part of the lower section 26, as shown in Fig. 7, to partake in shaping the opening 23. Alternatively, the segments 32 may be separated from the lower section 26 and removed therefrom (and discarded) after the tear portion 30 has been separated from the lower section 26, as shown in Fig. 7A. One may, of course, choose to use both the parts 31a and 31b, in which instance only one of the segments 32 (either to the right or to the left of the tear portion 30) will remain attached to the lower section 30. The upper section 24, in combination with the tear portion 30, provides secure closure for the opening 23, with or without the segment(s) 32 being still part of the lower section 26.

To open the package 10 for the first time, the user can partially separate, along the predetermined lines of weakness 31, the tear portion 30 from the rest of the lower section 26 by lifting the tear portion 30 therefrom. A second fold line 35 can beneficially be formed in the

lower section 26 of the card 20, to facilitate the lifting of the tear portion 30. Then, the tear portion 30 can articulate around the second fold line 35, up from the lower section 26 to open the package 10, and down towards the lower section 26 to reclose the package 10 and to lock the upper section 24 in a folded position, as explained herein. The second fold line 35 can be formed
5 using conventional techniques similar or identical to those described herein above with respect to forming the first fold line 25. The first fold line 25 and the second fold line 35 may be formed to be mutually parallel.

As best shown in Figs. 1–8, the upper section 24 is structured to articulate around the first fold line 25 to abut the lower section 26 of the card 20, thereby closing, at least partially, the
10 opening 23 in the lower section 26 – and consequently in the container formed between the shell 40 and the card 20. The upper section 24, therefore, functions as a cover, or closure, structured and configured to block the opening 23, thereby at least partially reclosing the container. At the same time, the tear portion 30 can rotate back, towards the folded upper section 24, to engage the upper section 24 while reclosing the rest of the opening 23.

15 The aperture 27 and the tear portion 30 are structured and configured to form mating interlocking elements when the card 20 is folded. That is, the aperture 27 and the tear portion 30 are constructed to engage one another when the card 20 is folded along the first fold line 25 and the tear portion 30 is folded back towards its original position (Figs. 5 and 8). In the embodiments shown in the Figures, the aperture 27 and the tear portion 30 are structured and
20 configured to allow the tear portion to be inserted through the aperture 27 so that when the card is in the folded position the free distal end 30b of the tear portion 30 is inside the fold formed between the upper section 24 and the lower section 26.

Figs. 1–6 schematically show several successive steps in the process of opening and reclosing the package 10 – as well as several configurations thereof. Fig. 1 shows the package 10
25 in its initial, “display,” or sealed configuration, when the card 20 is unfolded and substantially planar, the tear portion 30 is not yet separated from the lower section 26 of the card 20, and the container formed between the card 20 and the shell 40 is closed. In Figs. 2 and 3, showing an “open” configuration of the package 10, the tear portion 30 is partially separated and lifted up from the rest of the lower section 26, and the formed opening 23 allows a user to remove the
30 product 41 from the package 10. Fig. 3 shows the package 10 with the card 20 bent along the first fold line 25 so that the upper and lower sections 24, 26 are partially folded towards each other. Fig. 4 shows a further folding of the upper section 24 towards the lower section 26; now

the upper section 24 is in a position to be engaged, through its aperture 27, by the tear portion 30. In Fig. 5, the tear portion 30 engages the upper section 24 through its aperture 27, beginning to interlock the upper section 24 and the lower section 26 together. Finally, Fig. 6 shows the package 10 in its reclosed, or “storage” configuration, wherein the tear portion 30 has fully engaged and locked the upper section 24 in a fully folded position upon the lower section 26, so that the opening 23 is securely reclosed by the upper section 24 and the tear portion 30 in combination. The distal end 30b of the tear portion 30 is now disposed inside the fold formed between the upper and lower sections 24, 26. To reopen the package 10, the user can pull the tear portion 30 from the aperture 27, releasing the tear portion’s distal end 30b from the fold, thus unlocking the engagement between the upper and lower sections 24, 26, while lifting up both the tear portion 30 and the upper section 24, thereby uncovering the opening 23 and gaining access to the container.

Thus, in the package 10 of the invention, the tear portion 30 and the aperture 27 provide a reliable yet uncomplicated and economically beneficial arrangement for converting a display package into a storage package – and for subsequent easy opening and closing of the storage package. In the embodiments shown herein, the tear portion 30 and the aperture 27 are structured and configured to ensure a consistent fit therebetween, providing reliable frictional interlocking between the tear portion 30 and the upper section 24, which is not substantially affected by recurring openings and closings of the package 10.

The package 10 may be designed to ensure that the opening 23 can be completely covered by the upper section 24. This, however, is not necessary. The tear portion 30 can be structured to partially reclose the opening 23 in the container 10 after the tear portion 30 has been separated from the lower section 26. Thus, each of the upper section 24 and the tear portion 30 can be structured to cover a portion of the opening 23, and both the upper section 24 and the tear portion 30, in combination, can provide complete closure for the opening 23.

In the embodiment shown in Figs. 7–8, the tear portion 30 has a second tab 33 formed therein. The second tab 33 can be conveniently structured and configured to facilitate a separation of the tear portion 30 from the rest of the card 20 along the lines of weakness 31. The second tab 33 can be advantageously formed to be integral with the rest of the tear portion 30 (i.e., be a cut-out part of the tear portion 30), as shown in Figs. 7–8, or, alternatively (and less desirably), can be adhesively or otherwise attached to the tear portion 30 (not shown). The second tab 33 should be suitably sized to allow a user to conveniently grab and pull the second

tab 33, thereby breaking the lines of weakness 31 and lifting the tear portion 30, thus creating the opening 23 in the card 20. In addition, the second tab 33 can help the user to direct the tear portion 30 into the aperture 27 when reclosing the package 10 and to pull the tear portion 30 from the aperture 27 – and from the locking engagement with the upper portion 24 – when reopening
5 the package 10. A third fold line 37 can be beneficially formed adjacent to the second tab 33, to assist the user in manipulating the tear portion 30, as described herein. The third fold line 37 can be substantially parallel to the first fold line 25 or the second fold line 35.

While the exemplary embodiments of the package 10 shown in several figures herein contain the product 41 comprising electrical batteries, one skilled in the art should realize that
10 any suitable products can benefit from the disclosed design – particularly those which are routinely sold in a display-type package and which are typically removed from the package incrementally, one at a time. Non-limiting examples of such products include: various office supplies such as, for example, writing implements (pens and pencils), pencil erasers, pencil leads / graphite, rubber bands, and paper clips; fastening implements, such as, for example, nails,
15 screws, bolts, nuts, rivets, pins, washers, and the like; relatively small food items, such as, for example, candies, mints, gum, chocolates, snack packs, tea or coffee bags, sugar or sweetener packs, various packed condiments, and food supplements in the form of tablets, pills, and capsules; personal hygiene and grooming items, such as, for example, cotton swabs, q-tips, wipes, sponges, razor blades, oral-care implements, toothpicks, disposable toothbrushes and
20 toothbrush refills, dental floss, paste, condoms, cosmetic products, toiletries, and the like; electronic storage devices, such as, for example, compact flashes, SD cards, USB cards, and the like; game pieces such as chess, dices, and the like; magnets; toys; marbles; cigarettes; tobacco; tapes; films; and many other suitable products.

One advantage of the present invention comprises multi-functionality of at least the tear
25 portion 30. As is shown herein, the tear portion 30 functions as an integral portion of the card 20, maintaining its structural integrity while keeping the container firmly closed when the package 10 is in the display configuration (Figs. 1 and 12). The tear portion 30 also functions as an opener, initially opening the package 10 and allowing access to the product 41 when the tear portion 30 is partially separated from the rest of the card 20 and lifted up (Figs. 2, 3, and 7).
30 Finally, the tear portion 30 functions as a locking element when it engages the upper section 24 to lock the upper and lower section 24, 26 folded together to reclose the opening 23 and to maintain the package 10 securely in the storage configuration (Figs. 6).

The aperture 27 is, likewise, designed to act as a multi-function element in the exemplary embodiment of the package 10 disclosed herein. That is, the aperture 27 functions as a display hole when the package 10 is displayed in a store by being hanged, for example, from a display hanger inserted through the aperture 27 (Fig. 12). The aperture 27 also functions as a locking
5 element when the card 20 is folded in a storage configuration (Fig. 6). This versatile multi-functionality of the package's elements offers an elegant and economic approach to the task of minimizing the use of discardable parts and materials – and contributes to sustainability efforts, so important for the today's environment. In addition, the card 20 and/or the three-dimensional shell 40 may be beneficially made of an eco-friendly recyclable or biodegradable material or
10 materials.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to a skilled artisan that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is, therefore, intended to cover in the appended claims all such changes and modifications that are within the
15 scope of this invention.

Disclosures of all patent documents cited above are incorporated herein by reference.

CLAIMS

What is claimed is:

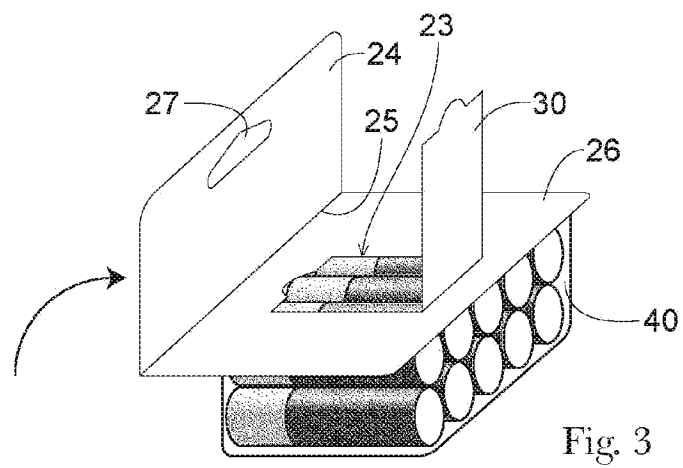
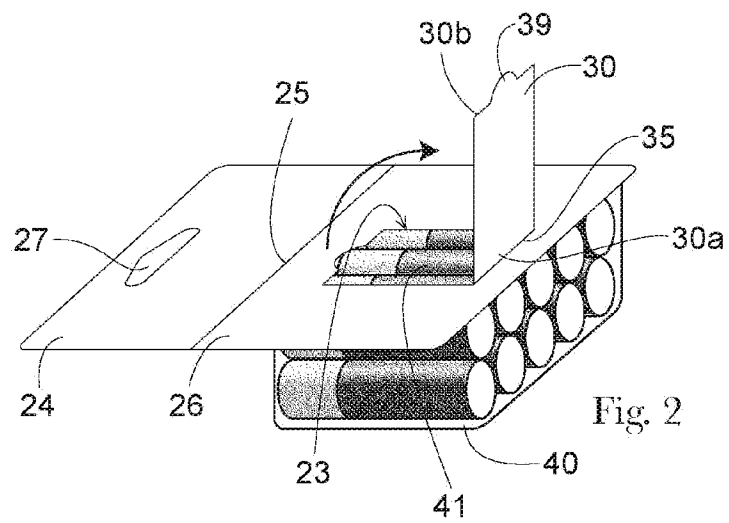
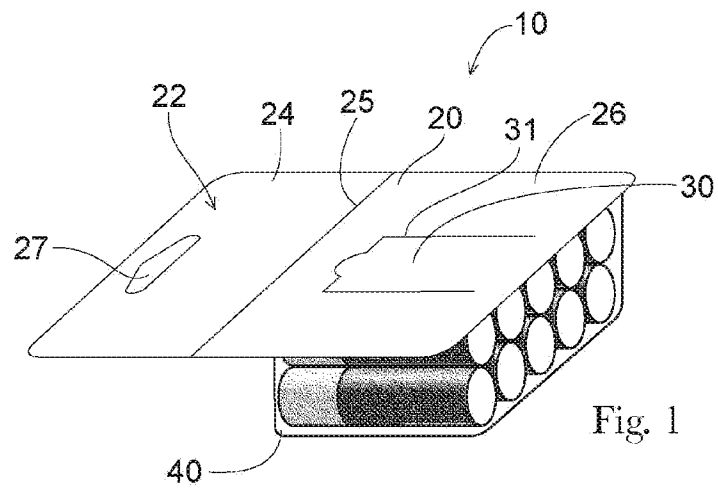
1. A reclosable display package comprising:
 - 5 a foldable card having an upper section and a lower section adjacent to the upper section along a first fold line; and
 - a three-dimensional shell affixed to the lower section of the card, preferably along a peripheral flange of the shell, to form a closed container configured to house a product,
 - 10 wherein the lower section of the card has a tear portion formed therein and structured to be partially separated therefrom thereby forming an opening in the container,
 - wherein the card is structured and configured to be folded along the first fold line so that the upper section and the lower section abut each other thereby reclosing the opening in the container after the tear portion has been partially separated, and the tear portion is structured and configured to engage the upper section to keep the upper section and the
 - 15 lower section in a folded position, thereby keeping the container closed.
2. The reclosable display package of claim 1, wherein the upper section has an aperture formed therein, and wherein the aperture and the tear portion are structured and configured to function as mating interlocking elements, wherein the tear portion, after
- 20 being partially separated from the rest of the card, can be inserted into the aperture, thereby locking the upper section and the lower section together in a folded position.
3. The reclosable display package of any of the preceding claims, wherein the tear portion, when partially separated from the rest of the card, has a proximate end adjacent to the rest
- 25 of the card and a free distant end separated from the rest of the card, the aperture and the tear portion being structured and configured to allow the tear portion to be inserted through the aperture so that the free distal end of the tear portion is disposed between the upper section and the lower section of the card when the card is in the folded position.
- 30 4. The reclosable display package of any of the preceding claims, wherein the tear portion is structured and configured to at least partially reclose the opening in the container when the upper section and the lower section are in the folded position.

5. The reclosable display package of any of the preceding claims, wherein the display package is structured and configured to have (a) a display configuration in which the card is unfolded and the container is closed, (b) an open configuration in which the tear portion is partially separated along lines of weakness thereby forming an opening in the container through which the product can be removed, and (c) a storage configuration in which the card is folded so that a backside of the upper section faces a backside of the lower section forming a fold therebetween, and the tear portion is inserted through the aperture and into the fold to lock the upper section and the lower section in a folded position, and wherein the aperture functions as (1) a display hole when the package is displayed in a display configuration by being hanged from a display hanger inserted through the aperture and (2) as a first locking element while the tear portion functions as a second locking element when the card is folded and the first and second locking elements engage one another to maintain the display package in the storage configuration so that the opening in the container is blocked and the product is secured inside the package.
6. The reclosable display package of any of the preceding claims, wherein the product is selected from the group consisting of electric batteries, office supplies, fastening implements, food items and supplements, personal hygiene and grooming items, electronic storage devices, game pieces, magnets, toys, marbles, cigarettes, tobacco, tapes, films, and any combination thereof.
7. The reclosable display package of any of the preceding claims, wherein the lines of weakness provide variable configurations of the opening in the container.
8. The reclosable display package of any of the preceding claims, wherein the tear portion includes at least one tab formed therein to assist a user in at least one of (a) partially separating the tear portion along the predetermined lines of weakness and (b) causing the locking elements to engage one another.
9. The reclosable display package of any of the preceding claims, wherein at least one of the card and the shell is made of a material selected from the group consisting of sylvacycle paperboard, solid bleached sulfate paperboard (SBS), solid unbleached paperboard (SUS), chipboard, clay-coated paperboard, fluted corrugate, bamboo, bamboo

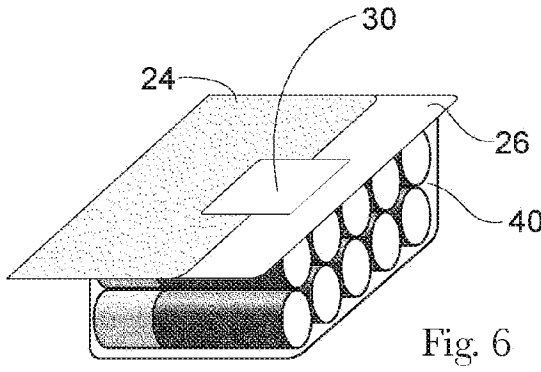
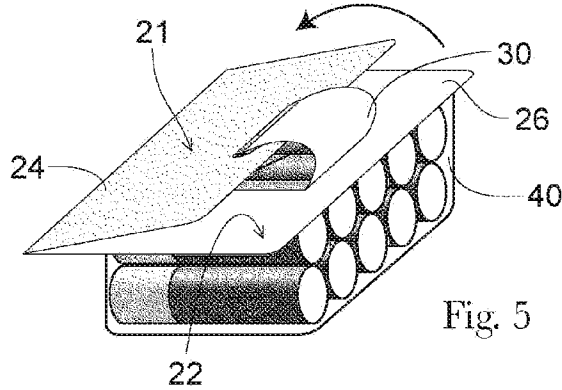
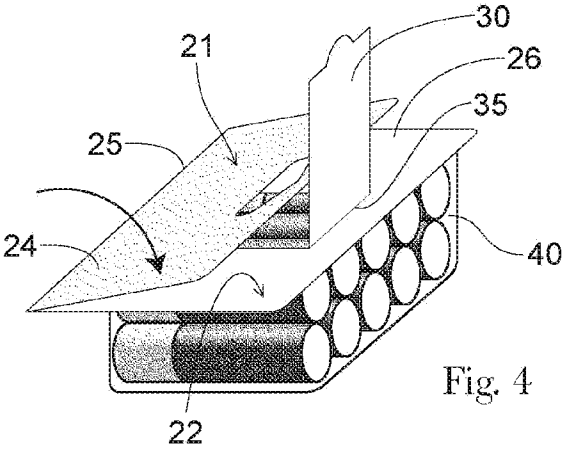
polyvinyl chloride (PVC), polyethylene (PE), polyethylene terephthalate (PET), polystyrene (PS), orientated polystyrene (OPS), polypropylene (PP), orientated polypropylene (OPP), and any combination thereof.

- 5 10. The reclosable display package of any of the preceding claims, wherein at least one of the card and the shell is at least partially transparent or translucent, and preferably at least one of the card and the shell is made of an eco-friendly recyclable or biodegradable material.

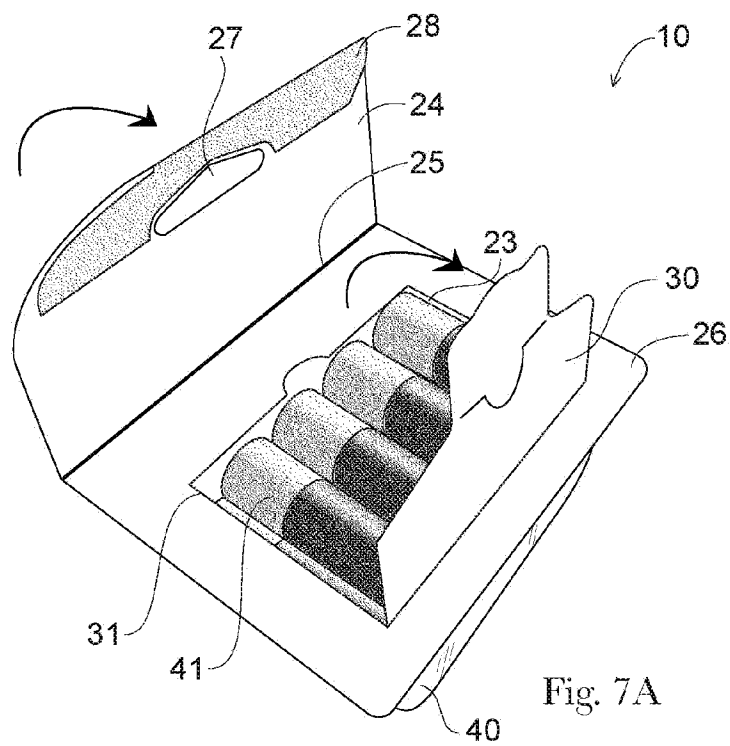
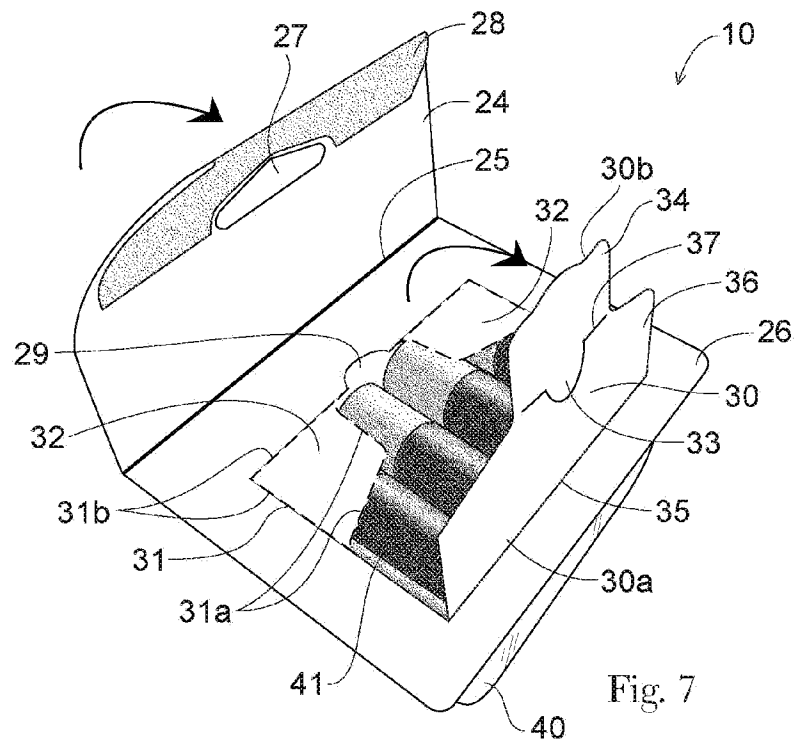
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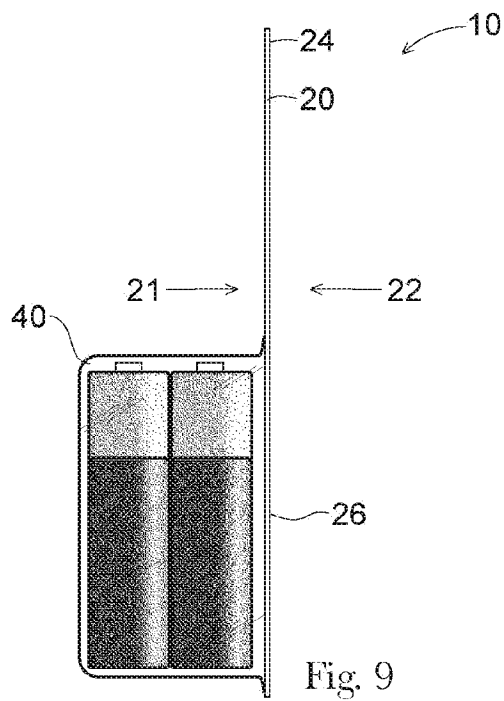
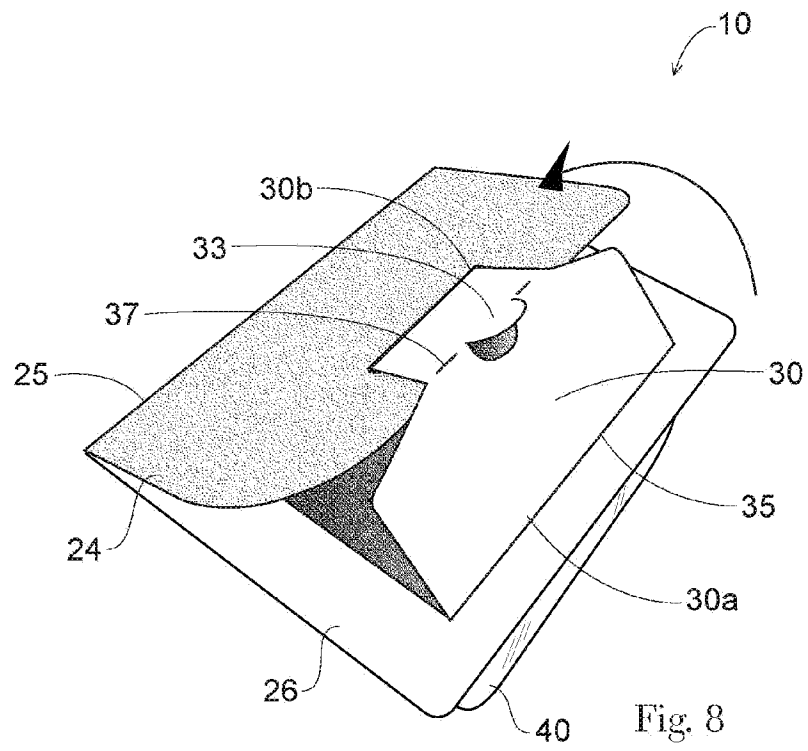
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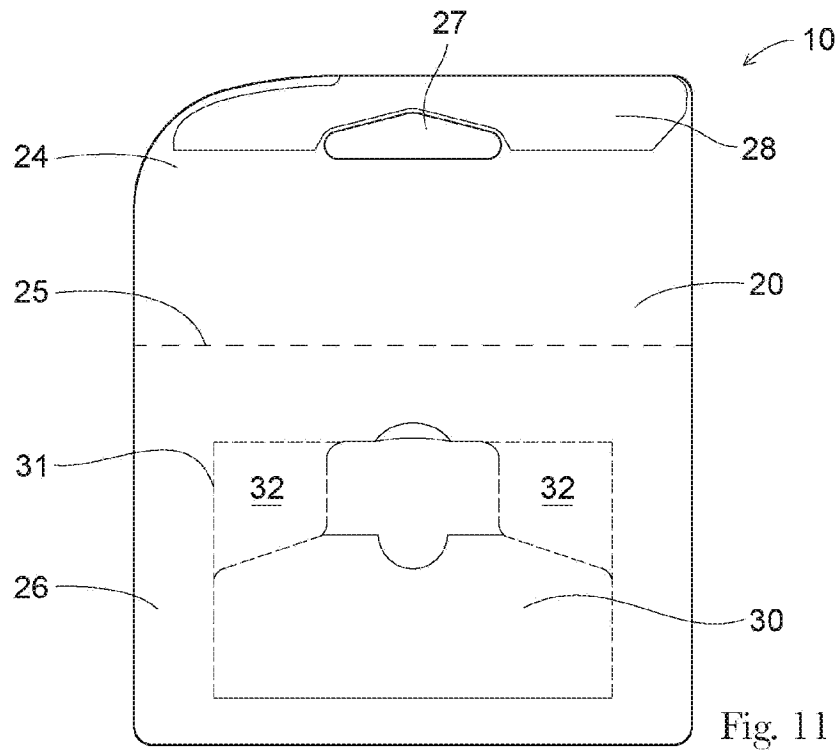
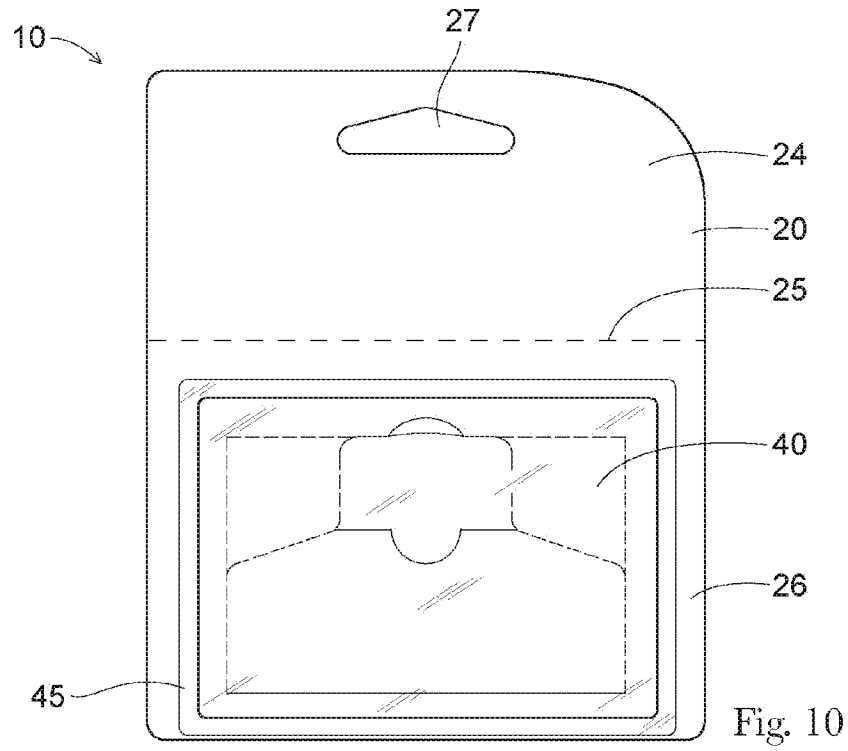
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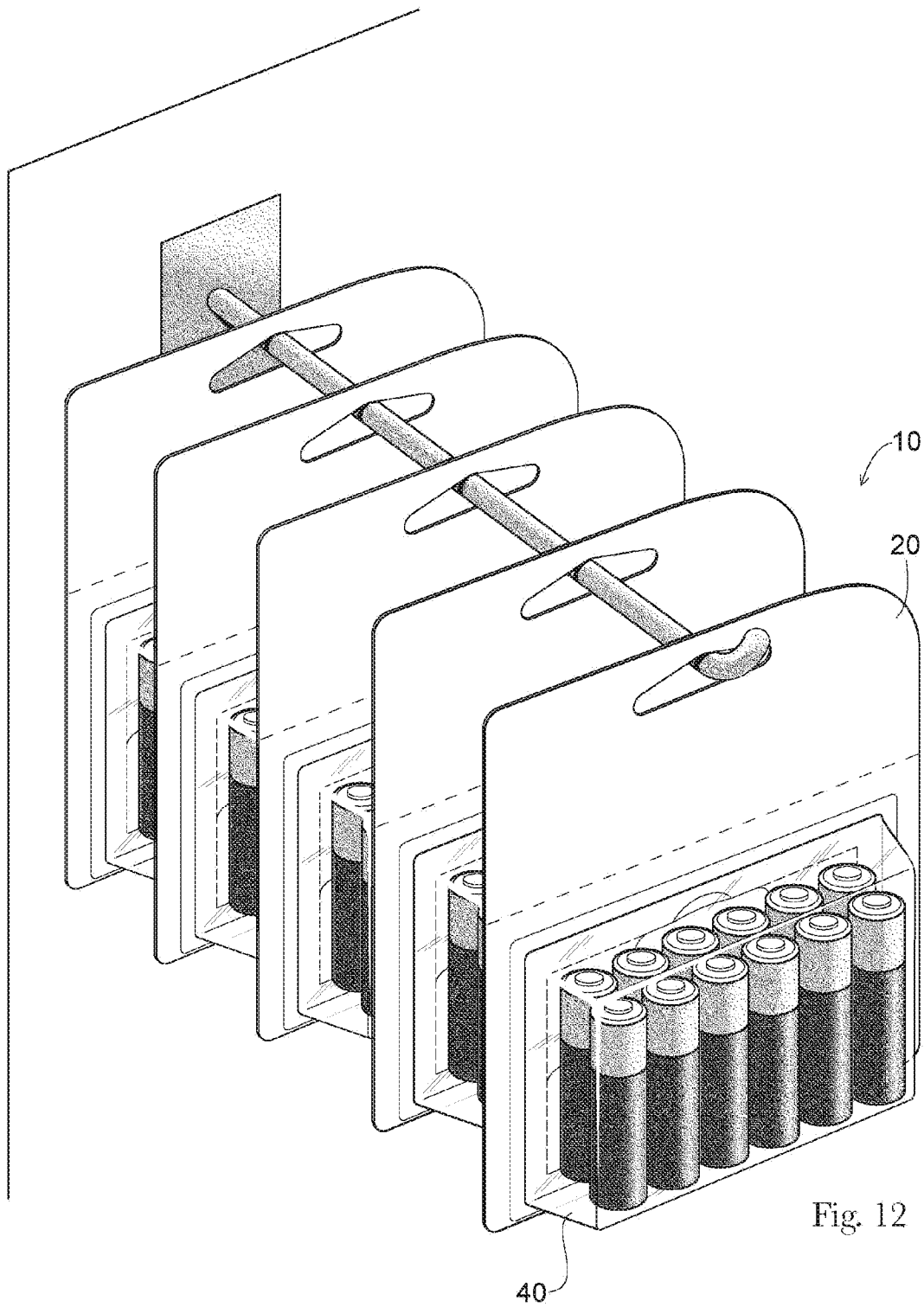
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6/6



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/025384

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D75/36
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)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 188 682 A2 (VARTA GERAETEBATTERIE GMBH [DE]) 20 March 2002 (2002-03-20) the whole document -----	1-10
X A	US 3 279 596 A (HANS-AUGUST PRYM ET AL) 18 October 1966 (1966-10-18) the whole document -----	1,4,6,9, 10 2,3,5,7, 8
X A	GB 1 081 927 A (HANS PRYM; AXEL PRYM; DIETER PRYM) 6 September 1967 (1967-09-06) the whole document -----	1,4,6,9, 10 2,3,5,7, 8
A	US 4 200 193 A (BOYLE DANIEL J [US]) 29 April 1980 (1980-04-29) cited in the application the whole document ----- -/--	1-10

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

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"&" document member of the same patent family

Date of the actual completion of the international search

17 April 2012

Date of mailing of the international search report

26/04/2012

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/025384

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 016 914 A (GUSTAFSON ARTHUR L [US]) 25 January 2000 (2000-01-25) cited in the application the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/025384

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