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(54) **BLISTER PACK FOR ELONGATE SYMMETRIC OBJECTS**

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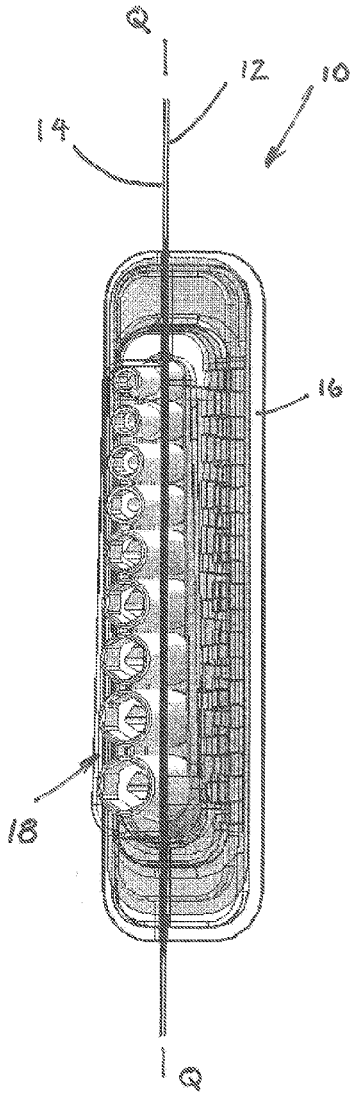
(57) **ABSTRACT**

A packaging assembly for displaying a product, the packaging assembly comprising: a first rectangular board a second rectangular board; a first transparent clamshell blister having a first 3-dimensional shape; a second transparent clamshell blister having a second 3-dimensional shape; wherein, the first clamshell blister extends through the first board and the second clamshell blister extends through the second board; wherein the first rectangular board is positioned adjacent the second rectangular board. The first transparent clamshell blister and the second transparent clamshell blister form a single transparent cavity wherein, from at least one view, the single cavity defines a symmetrical shape having an axis of symmetry, and wherein, the axis of symmetry is set off by an angle of between 20 degrees and 30 degrees from a plane containing the first rectangular board and the second rectangular board.



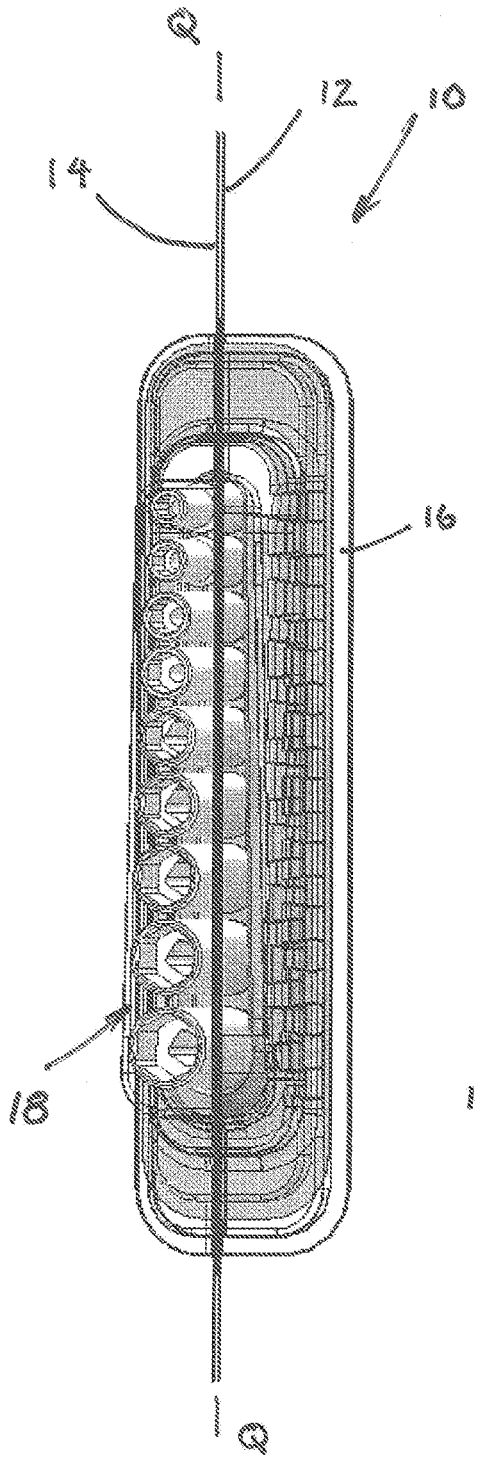


Fig. 1

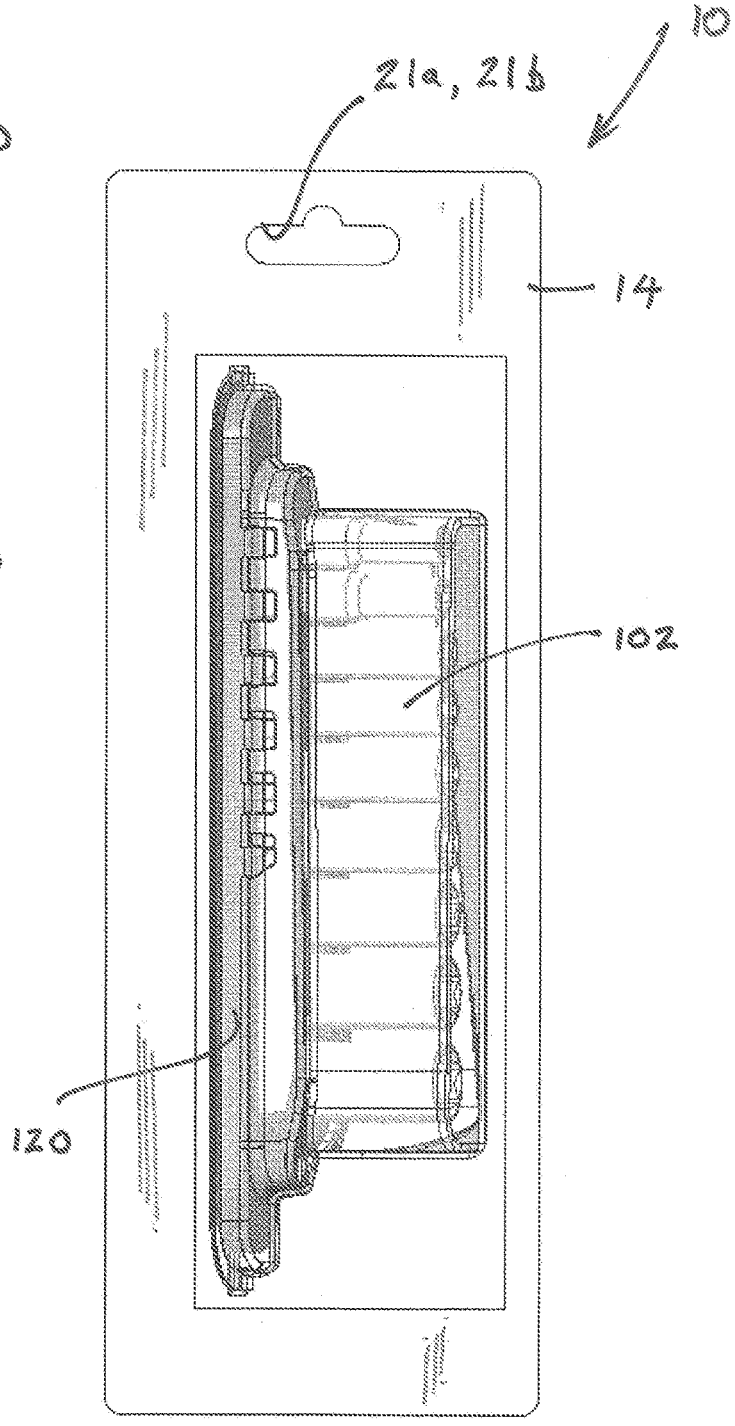


Fig. 2

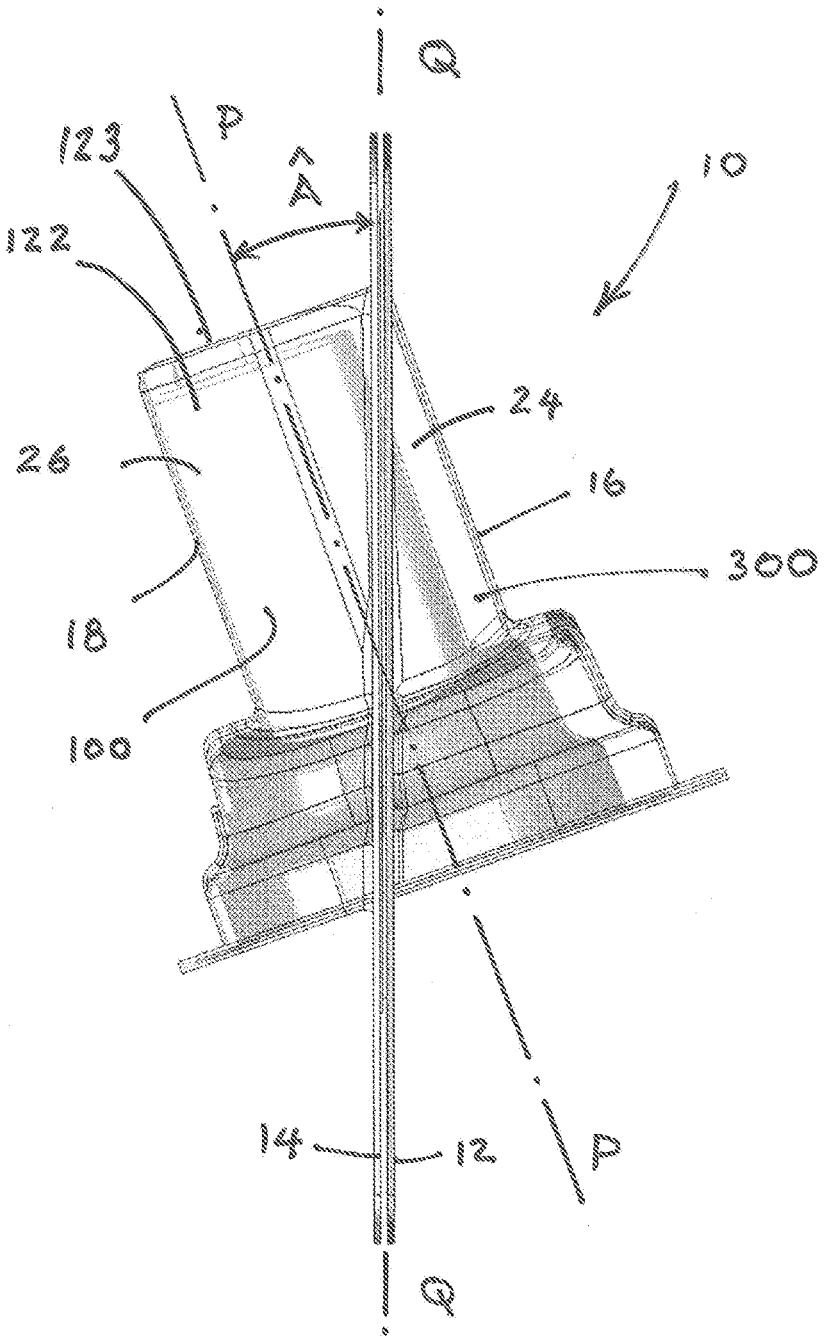


FIG. 3

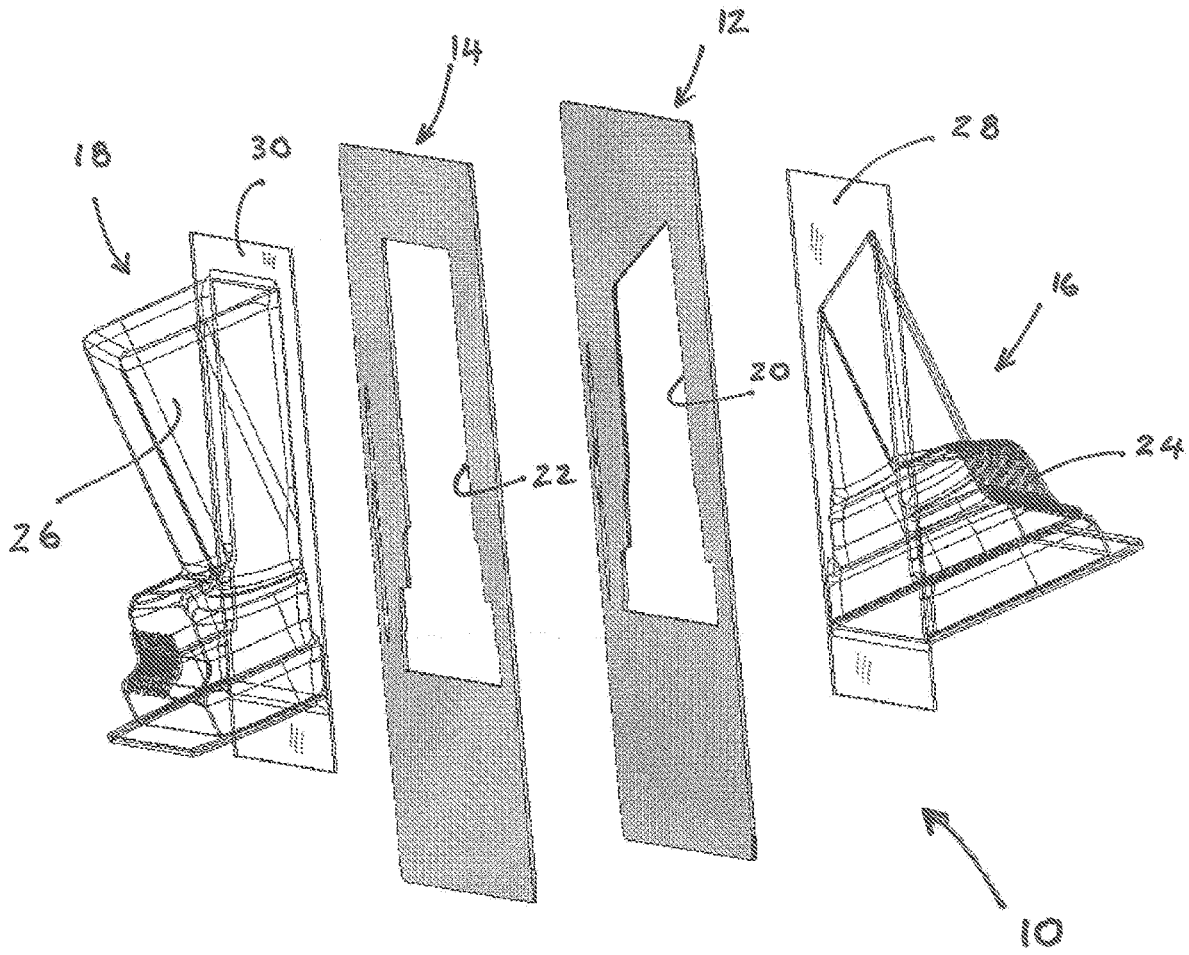


FIG. 4

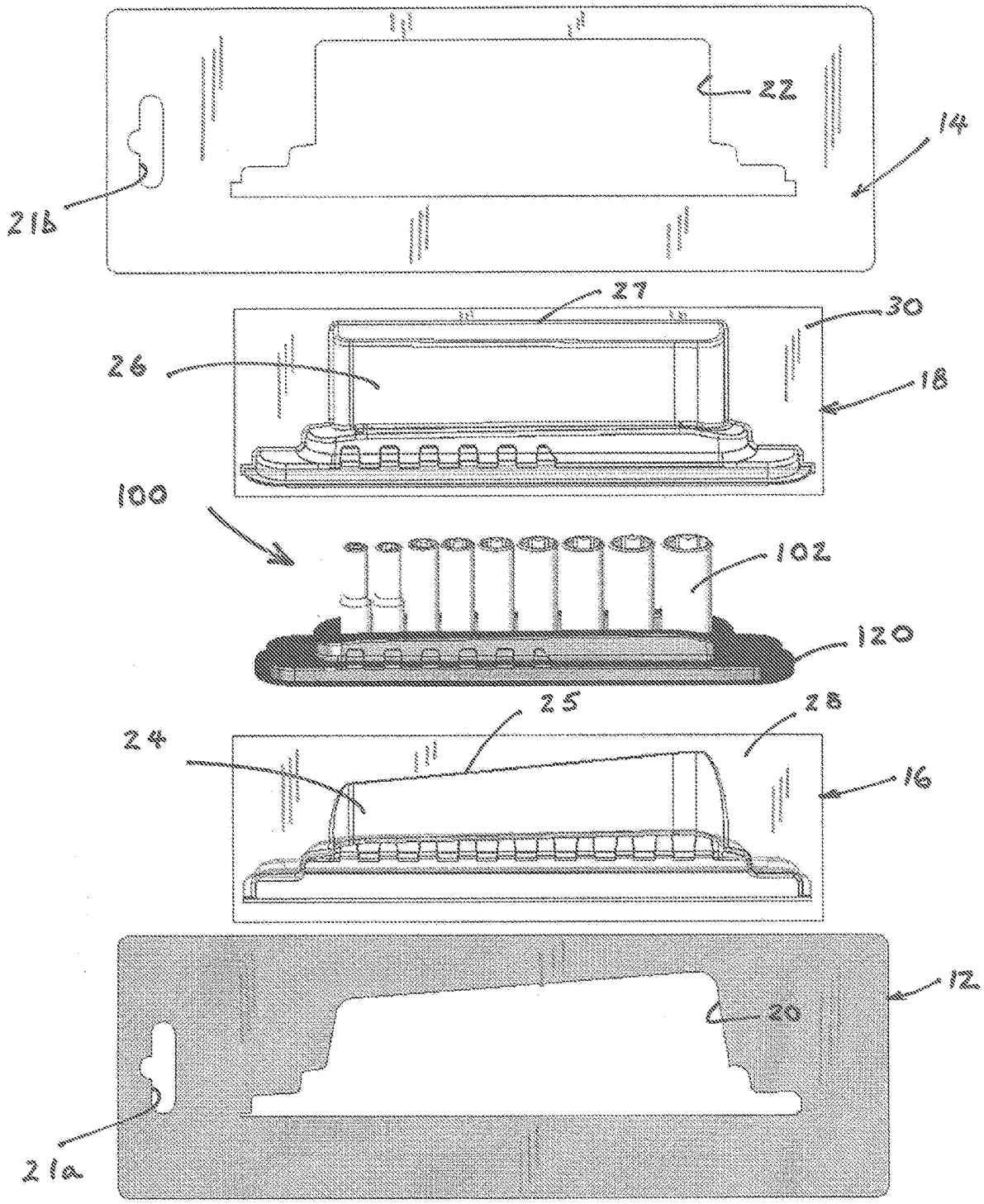


FIG. 5

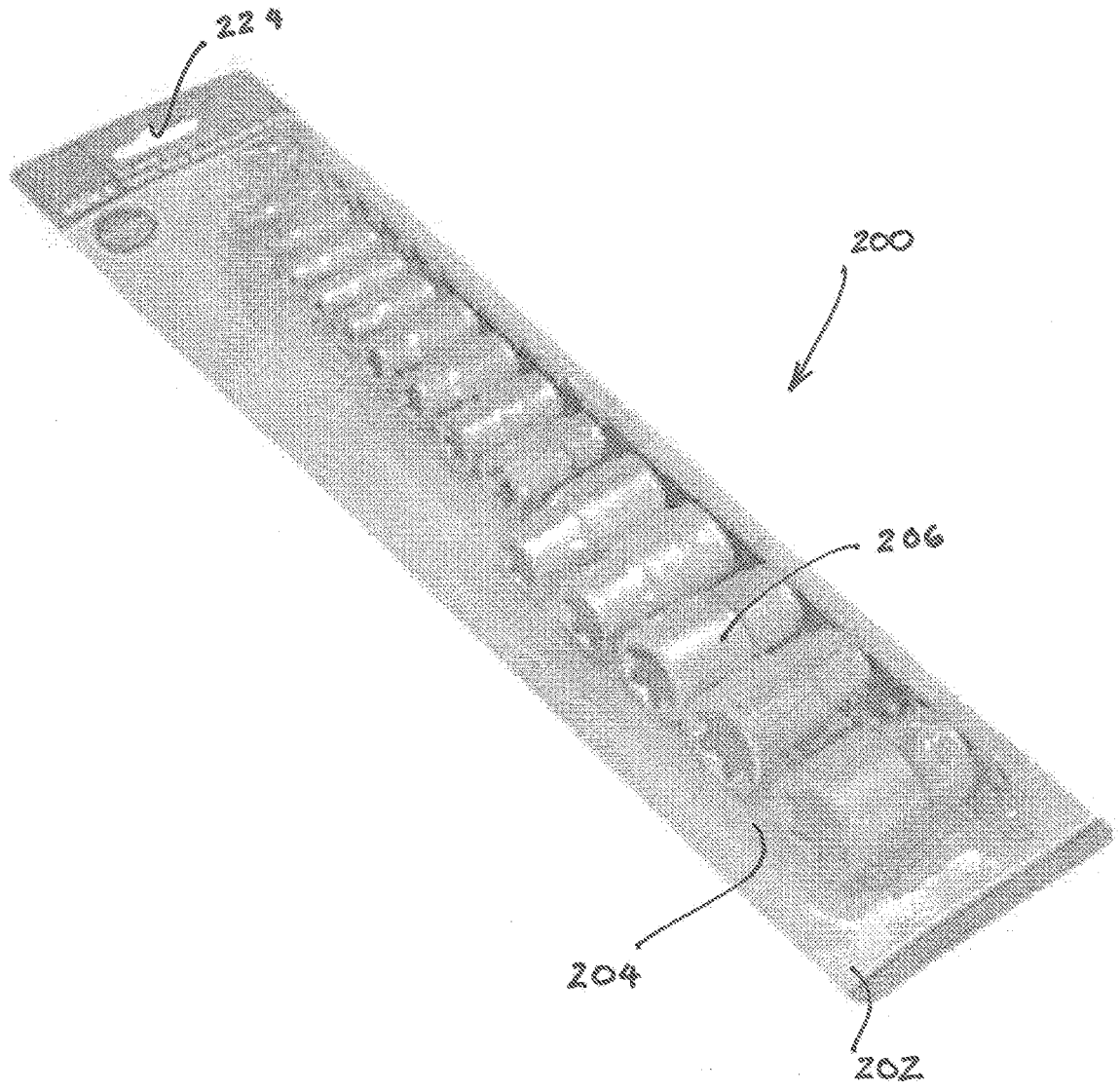


FIG. 6

(Prior Art)

BLISTER PACK FOR ELONGATE SYMMETRIC OBJECTS

BACKGROUND

[0001] The present invention relates generally to product packaging that displays the products contained therein and, specifically, to product packaging that displays products which have the form of an elongate item contained therein, such that the consumer is given an enhanced view of the end of the elongate item.

[0002] Many products are sold in a packaging configuration which allows a plurality of packages of a product to be suspended from a single hook extending horizontally from a display board in a store. This method has evolved into a complex form, allowing the store and the producer of the product to maximize the visibility of the product to the customer walking by, and also to maximize the numbers of the product hanging from the hook. As part of this process, producers have developed a system for packaging the product in a tamper resistant manner so that members of the public cannot separate the product from its identifying packaging, but while at the same time being able to view the product through a transparent polymer bubble. One system developed for achieving this result is to attach a transparent polymer bubble onto a card that will receive printed information about the product. The product is located inside the bubble, and the attachment of the bubble to the card is irreversible, so that any attempt to remove the product cannot be undone; this provides a warning that tampering with the product may be complete or in progress.

[0003] This system has proven successful for most products. However, a problem arises in cases where the product meets each of two characteristics: 1) where the product is highly elongate, and 2) where it is the end tip of the product that contains the novel or desirable feature that the producer would like the consumer to see at a glance and direct his or her attention to immediately as the reason for distinguishing the superiority of the product. This problem is exemplified by reference to FIG. **7** which shows a packaging system **200** that is known in the prior art for containing and displaying a socket set **206** (fourteen sockets in this example). The packaging system **200** is typically formed from a cardboard card **202** suitable for printing information about the sockets. A polymer bubble **204**, of known fabrication by heat shaping, may be attached by an adhesive or staple to the card **202**. Here, it is shown how a set of sockets **206** may be captured between the card **202** and the bubble **204**. To release the sockets from the location of capture, perforations may be provided on the card **202**, so that pressure on the sockets ruptures the perforations to permit the sockets to pass through the card. The card includes a hole **224**, which permits the entire packaging system **200** to be suspended from a hook, extending horizontally from a display board in a store. Furthermore, a plurality of packaging systems **200** may be suspended from the same hook. The front-most package and the sockets within are visible to the consumer. Should the consumer remove the front-most package for purchase, the package behind it becomes visible to the next consumer. As may be seen, the fact that the sockets have elongate axes compels them to be arranged in the bubble, most conveniently, so that their axes lie parallel with the cardboard. The dominant view of the sockets to the consumer as they hang from a hook on the display board is towards a lateral side of the sockets showing their tubular length.

[0004] However, a problem with the prior art arises when the feature that the producer of the sockets wishes to promote as the selling point resides in the tip of the sockets, because, for example, the tip of the sockets has been cut using a proprietary method, to produce a highly attractive and advantageous opening for receiving the sockets. In the systems available in the prior art (e.g. FIG. **6**) the tip is not readily visible to the consumer because the angle of view by the customer will be 90 degrees out of perpendicular alignment. If the consumer is aware of the fact that the tip of the sockets is the distinguishing feature of the product—most frequently, the consumer is not aware of this fact—he will have to reach out and twist the assembly on its hook for a better view. Rearranging the sockets in the package to extend perpendicular to the card **202**, and thus to present the tip of the sockets for direct viewing by the consumer, will produce a packaging system that has a much larger horizontal depth, thereby reducing the number of packages that can be suspended from a single hook. Furthermore, stacking such packages into a box for shipment will have the same result, and fewer packages may be received in a standard shipping box.

[0005] Thus, there is a need in the art for a system and method for displaying elongate products from a hanging display, where it is the tip of the products that is the feature that the producer wishes to promote as the distinguishing and selling point of the products. The present invention addresses these and other needs.

SUMMARY OF THE INVENTION

[0006] The present invention is directed to a packaging assembly for displaying a product. The packaging assembly comprises a first rectangular board having a left side and a right side and which defines a first opening and a second opening. The packaging assembly further comprises a second rectangular board having a left side and a right side and which defines a third opening and a fourth opening. A first clamshell blister that is transparent, and having a first 3-dimensional shape and a first planar perimeter is provided. A second clamshell blister that is transparent, having a second 3-dimensional shape and a second planar perimeter is provided. The first clamshell blister extends through the first opening, and the first planar perimeter abuts the left side of the first rectangular board. The second clamshell blister extends through the third opening, and the second planar perimeter abuts the right side of the second rectangular board. The first rectangular board is positioned adjacent the second rectangular board, such that the first planar perimeter is in abutting contact with the second planar perimeter, whereby the first clamshell blister and the second clamshell blister form a single transparent cavity, and the second opening and the fourth opening are in alignment with each other. From at least one view, the single transparent cavity defines a symmetrical shape having an axis of symmetry. The axis of symmetry is set off by an angle of between 20 degrees and 30 degrees from a plane containing the first rectangular board and the second rectangular board.

[0007] These and other advantages of the invention will appear from a review of the drawings and the detailed description of some embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The foregoing summary, as well as the following detailed description of the exemplary embodiments, will be better understood when read in conjunction with the appended drawings. It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown in the following figures.

[0009] FIG. **1** is a left side elevational view of an assembled package having features of the present invention.

[0010] FIG. **2** is a front elevational view of the package shown in FIG. **1**.

[0011] FIG. **3** bottom view of the package shown in FIG. **1**.

[0012] FIG. **4** is an exploded perspective view of components of the package shown in FIG. **1** but, for clarity, not showing any product in relation to the package.

[0013] FIG. **5** an exploded front elevational view of components of the package shown in FIG. **1**, and also showing a product that will be located inside a cavity in the package.

[0014] FIG. **6** is a view of a prior art package showing features of the known art.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0015] The description of illustrative embodiments according to principles of the present invention is intended to be read in connection with the accompanying drawings, which are to be considered part of the entire written description. In the description of embodiments of the invention disclosed herein, any reference to direction or orientation is merely intended for convenience of description and is not intended in any way to limit the scope of the present invention. Relative terms such as "lower," "upper," "horizontal," "vertical," "above," "below," "up", "down," "top" and "bottom" as well as derivatives thereof (e.g., "horizontally," "downwardly," "upwardly," etc.) should be construed to refer to the orientation as then described or as shown in the drawing under discussion. These relative terms are for convenience of description only and do not require that the apparatus be constructed or operated in a particular orientation unless explicitly indicated as such. Terms such as "attached," "affixed," "connected," "coupled," "interconnected," and similar refer to a relationship wherein structures are secured or attached to one another either directly or indirectly through intervening structures, as well as both movable or rigid attachments or relationships, unless expressly described otherwise. Moreover, the features and benefits of the invention are illustrated by reference to the preferred embodiments. Accordingly, the invention expressly should not be limited to such preferred embodiments illustrating some possible non-limiting combination of features that may exist alone or in other combinations of features; the scope of the invention being defined by the claims appended hereto.

[0016] The product which will be used in this application to exemplify the principles and features of the present invention is a set of sockets **102** resting in a supporting tray **120**—collectively identified by numeral **100** and referred to as a "socket set." In the case of the socket set **100**, that is best shown in FIG. **5**, the set happens to comprise nine sockets arranged alongside each other. Each socket has an aspect ratio of about 3—where "aspect ratio" is defined as the ratio of the maximum length to the maximum width of each socket. However, the socket set shown is only an example of the type of product that can be used in the invention, and is not intended to limit the scope of the invention and does not itself form a part of the invention. As further explained in the background section, each socket in the set may include a tip that is the point of commercial distinction which is the object of display to the passing customer. As explained above, a problem in the prior art arises in making this tip of the sockets easily visible to the passing customer.

[0017] Referring to FIGS. **1-5**, a package **10** having features of the invention is shown. The package **10** is shown in this case to contain a product **100**. The package **10** includes two rectangular boards **12**, **14**, of equal rectangular outline, best seen in FIG. **4** and FIG. **5**. Each board defines a major opening **20**, **22** and a minor opening **21***a* and **21***b* respectively. Two transparent clamshell bubbles **16**, **18** are provided. Each clamshell bubble **16**, **18** may be formed by heat pressing a flat sheet of polymer to produce a complex 3-dimensional shape ("3-d shape") **24**, **26**. Each 3-d shape **24**, **26** has an edge **25**, **27** which is surrounded by a flat planar perimeter **28**, **30** which, preferably, is rectangular in exterior outline. The edges **25**, **27** of each 3-d shape **24**, **26** may be profiled to fit snugly into the major openings **20**, **22** respectively of cards **12**, **14**.

[0018] As mentioned, with reference to FIGS. **1-5**, the invention is designed for packaging a product **100** having certain characteristics shown in those figures, specifically, a product that is elongate, and has an elongate axis. In some embodiments, the product **100** may include a collection of a plurality of units comprising the overall product for sale. In this case, the units are separate sockets **102**. Additionally, the sockets can be arranged to be seated in a tray **120**, so that when the product **100** is unpackaged, a useful container may be available to support the individual socket units neatly on a work bench.

[0019] With reference to FIGS. **4** and **5**, it will be understood how the overall package **10** may be assembled. The 3-d shape **24** of the right bubble **16** may be inserted, from the left, into the opening **20** in the right card **12**. The planar perimeter **28** of the right bubble cannot pass through the opening **20**, but abuts against the left surface of the right card **12**. Conversely, the 3-d shape **26** of the left bubble **18** may be inserted, from the right, into the opening **22** in the left card **14**. The planar perimeter **30** of the left bubble cannot pass through the opening **22**, but abuts against the right surface of the left card **14**. At this point, the product **100** may be placed in either the 3-d space **24** of the right bubble **16**, or the 3-d space **26** of the left bubble **18**. The two cards **12**, **14** are then brought into adjacent alignment with each other in a single plane Q-Q. The result is best exemplified in FIGS. **1** and **3**, where it can be seen that the cards **12**, **14** are in rectangular alignment with each other and the planar portions **28**, **30** of the right bubble **16** and the left bubble **18** are in contact with each other and are sandwiched between the right card **12** and the left card **14**. The two 3-d spaces **24**, **26** form a cavity **300** (best seen FIG. **3**) that contains the product **100**. The cards **12**, **14** are attached to each other by adhesive, staple, or the like. The minor openings **21***a* and **21***b* are in alignment with each other, and are ready to receive a linear suspension hook extending horizontally from a display board.

[0020] At this point, the configuration of the cavity **300** formed by the two 3-d shapes **24** and **26** is described when the cards are joined together. The two 3-d shapes **24**, **26** will,

when they are joined together as described herein, produce a cavity **300** that will have a molded shape configured to efficiently receive the product **100** for display. By "efficiently" it is meant that, when the cavity **300** is filled with the product **100**, the cavity will not include much surplus space. In other words, the cavity will itself have a shape that substantially mimics the shape of the product **100**.

[0021] As described above, the product **100** may be a collection of symmetrical tubular sockets **102-118** which all rest in a symmetrical tray **120**. Thus, seen from at least one view, the product **100** has one axis of symmetry P-P as exemplified in FIG. **3**. Accordingly, as a consequence of being efficiently molded, the cavity **300** will share the same axis of symmetry P-P when the package **10** is seen from the same view.

[0022] In the present invention, with reference to FIG. **3**, and in order to achieve the novel advantages of the invention, the cavity **300** is configured so that the axis of symmetry P-P of the cavity **300** is tilted away from the plane Q-Q of the two boards **12**, **14** by an angle A preferably 20 degrees to 30 degrees. It has been found that this angle allows three advantageous results: First, a glance at the package **10** suspended from a hook which is directed perpendicular to the plane Q-Q of the boards **12**, **14** will provide a view of the top **123** of the cavity that gives a consumer an enhanced view of the top **122** of the product **100** through the transparent clamshell bubble **18**. Second, the resulting package **10** can still be packed into shipment boxes without loss of space efficiency. In other words, there is no reduction in the number of packages **10** that can be packed into a shipment box. Third, a plurality of the packages **10** can still be hung on a single hook without sacrificing the maximum number of packages on the hook as compared to packages configured without the offset angle Â between axis and plane.

[0023] Accordingly, there is described a novel system and method that addresses needs and shortcomings in the art. The present invention may, of course, be carried out in other specific ways than those herein set forth without departing from the essential characteristics of the invention. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, while the scope of the invention is set forth in the claims that follow.

We claim:

1. A packaging assembly for displaying a product, the packaging assembly comprising:

a first rectangular board having a left side and a right side and which defines a first opening and a second opening;

a second rectangular board having a left side and a right side and which defines a third opening and a fourth opening;

a first clamshell blister that is transparent, having a first 3-dimensional shape and a first planar perimeter;

a second clamshell blister that is transparent, having a second 3-dimensional shape and a second planar perimeter;

wherein, the first clamshell blister extends through the first opening, and the first planar perimeter abuts the left side of the first rectangular board; and

wherein, the second clamshell blister extends through the third opening, and the second planar perimeter abuts the right side of the second rectangular board;

wherein the first rectangular board is positioned adjacent the second rectangular board, such that the first planar perimeter is in abutting contact with the second planar perimeter, whereby the first clamshell blister and the second clamshell blister form a single transparent cavity, and the second opening and the fourth opening are in alignment with each other;

wherein, from at least one view, the single transparent cavity defines a symmetrical shape having an axis of symmetry,

wherein, the axis of symmetry is set off by an angle of between 20 degrees and 30 degrees from a plane containing the first rectangular board and the second rectangular board.

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