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Manoucherians

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(54) **MULTI-RELIEF CLAM SHELL PACKAGE**

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(76) **Inventor: Leon Manoucherians, Glendale, CA (US)**

Correspondence Address:
PATTERSON & SHERIDAN, L.L.P.
3040 POST OAK BOULEVARD
SUITE 1500
HOUSTON, TX 77056 (US)

(57) **ABSTRACT**

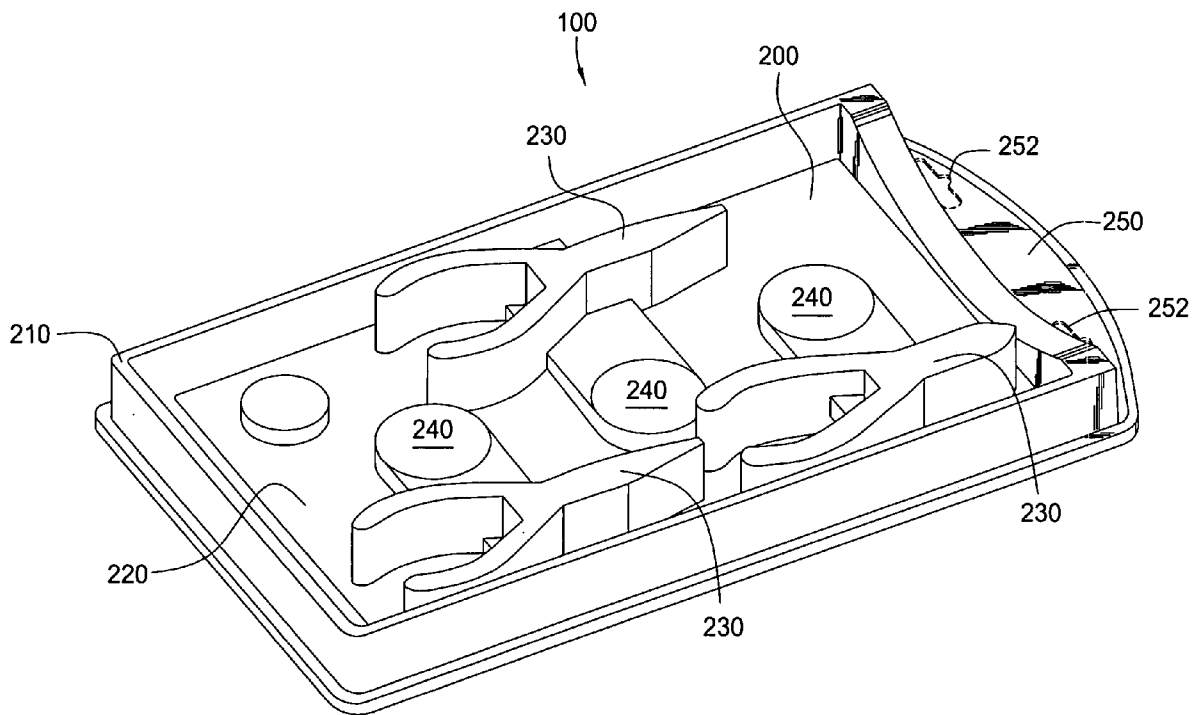
A multi-relief clam shell package is provided for displaying one or more tools. Generally, the package has front and back shell members. Each shell member is generally bounded by a frame, with the frames of the front and back shell members being configured to mate. The front and back shell members also each have a first display surface and a second display surface. Preferably, the respective second display surfaces are raised above the respective first display surfaces, and form chambers for supporting tools in relief fashion. The display surfaces of the first shell member are translucent.

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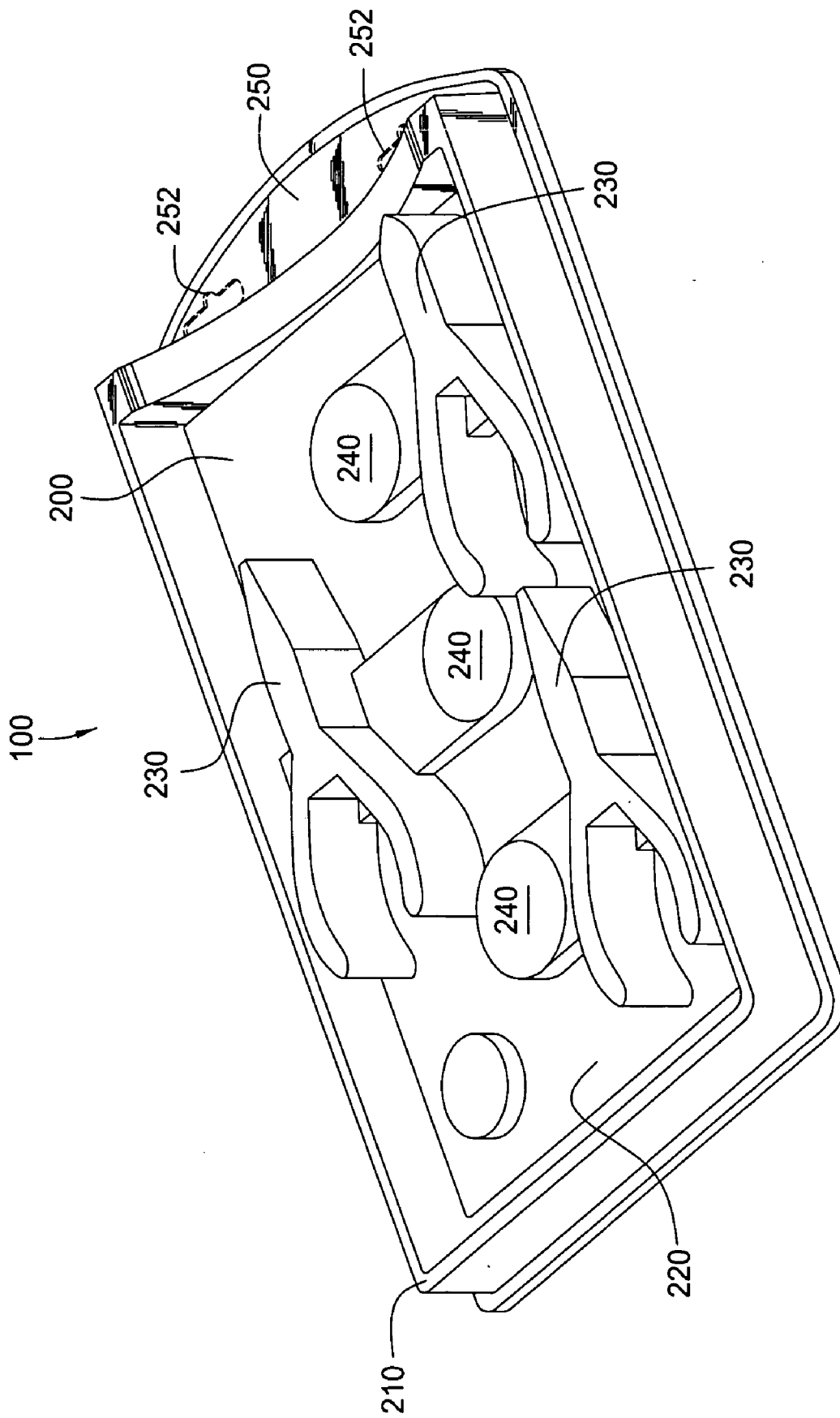


FIG. 1

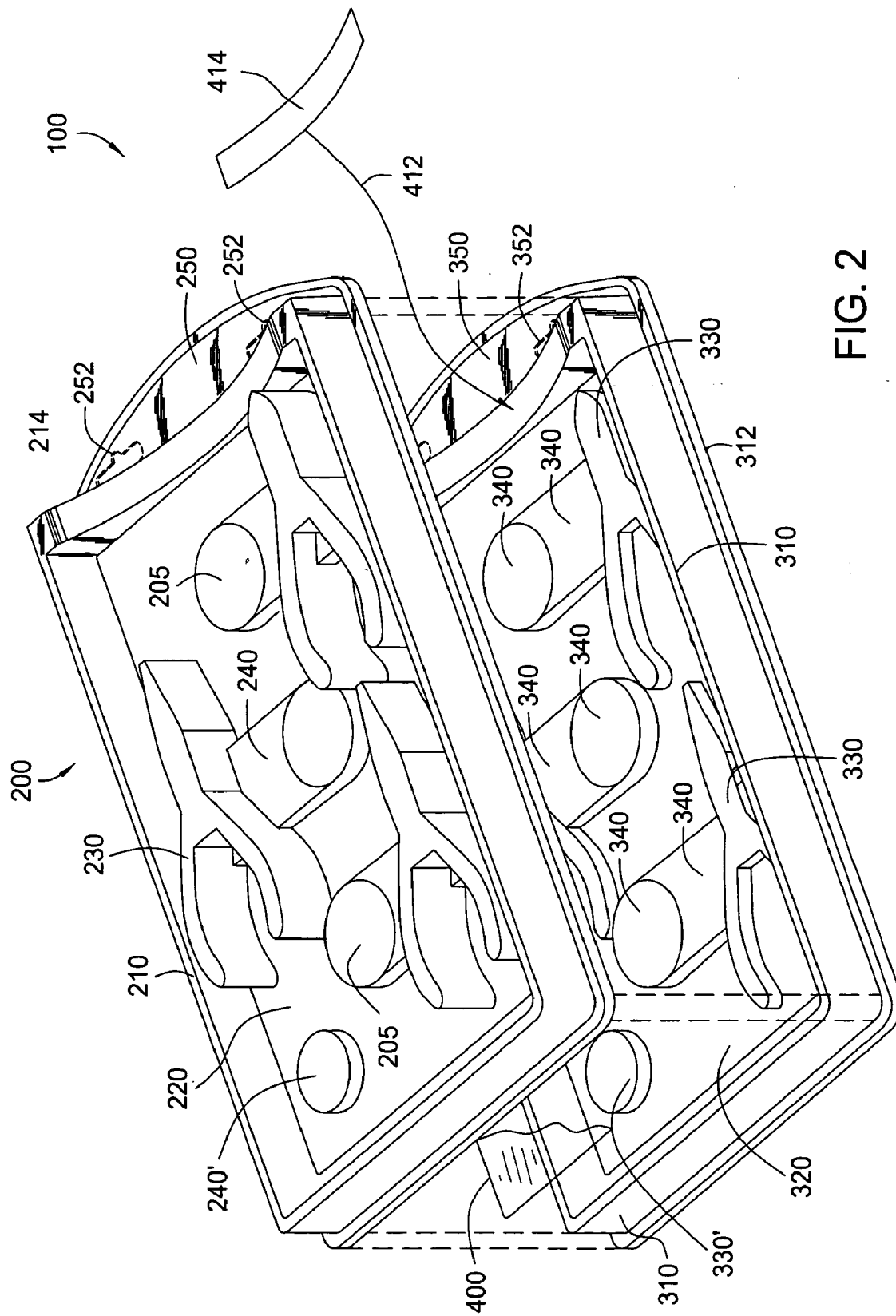


FIG. 2

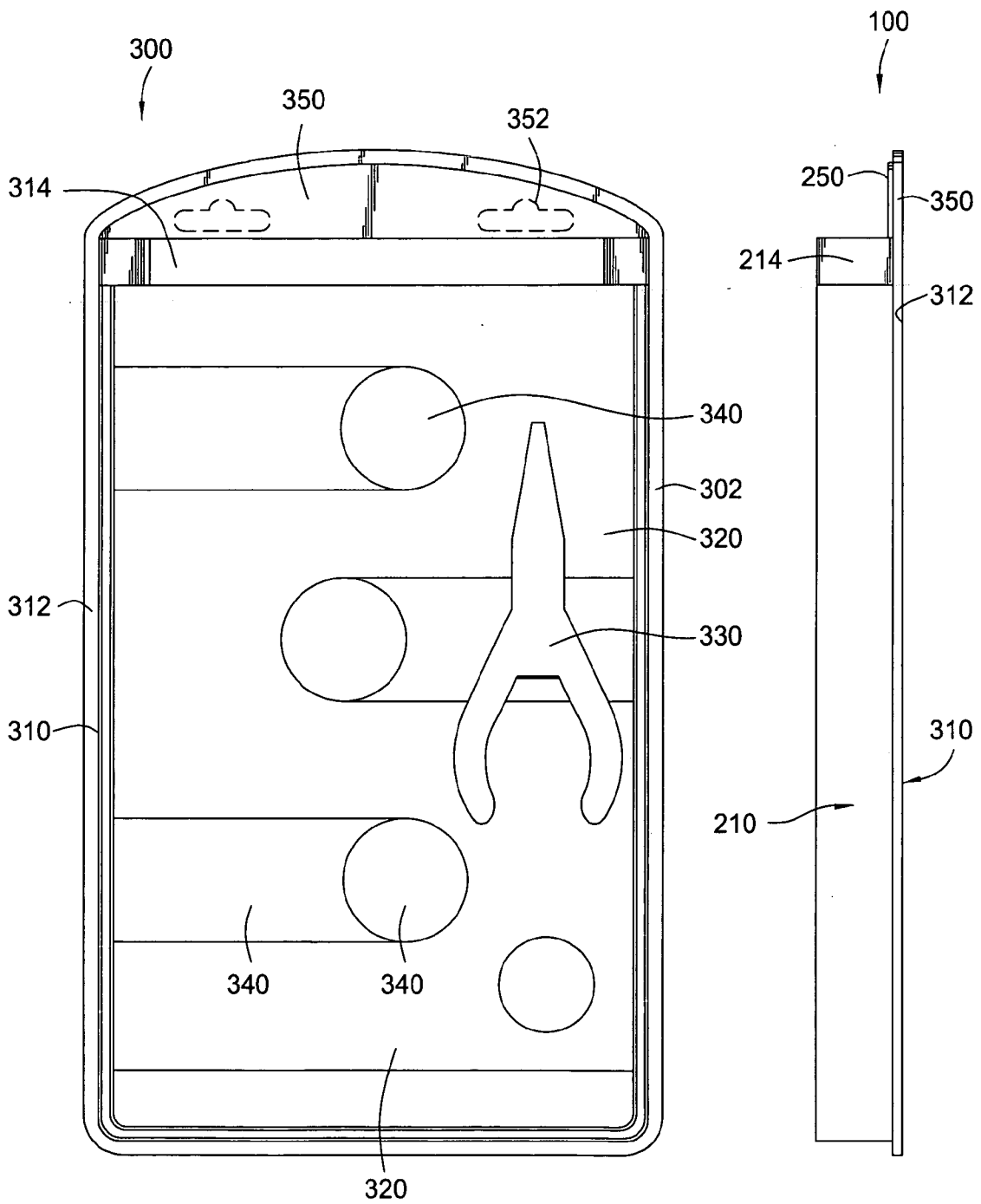


FIG. 3

FIG. 4

MULTI-RELIEF CLAM SHELL PACKAGE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] Embodiments of the present invention generally relate to the packaging of products. More particularly, the present invention relates to the display of products in a translucent, clam-shell package.

[0003] 2. Description of the Related Art

[0004] Traditionally, products have been shipped by manufacturers or distributors to retail outlets by placing individual products in cartons. Protective packing material may be employed to prevent products from shifting during transit. Shifting within cartons may produce damage to the products and related product labels and display panels. Upon arrival at the retail outlet, the individual products are then removed from the cartons to be individually placed on a shelf or rack for display. In the case of tools, the products may be displayed within a secure display case or behind a lockable panel to minimize the risk of theft.

[0005] This method of shipping and display is both costly and time consuming. The manufacturer must often pay relatively expensive initial packaging costs, particularly for items that are easily damaged by rough handling. The retailer must then pay employees to place each individual product item on display in a manner that is both appealing to the customer and safe for the product. Furthermore, for small, expensive and easily stolen products, which are kept in secured display cases, the retailer must pay a sales person to attend to each customer wishing to inspect the products. Thus, there is a need for more economical means of safely and efficiently shipping and displaying products for sale.

[0006] As an alternative to the above method of shipping and displaying of products, clam shell packages have been developed. The clam shell packages allow one or more products such as small tools to be securely held between translucent shell members. By mating the shell members, several issues are simultaneously addressed. For example, product labels can be placed between the front and back shell members, along with the tools. In addition, the clam shell packages deter product theft due to their size. However, a need exists for an improved clam shell package that provides a more aesthetic product presentation, and that generates consumer interest.

SUMMARY OF THE INVENTION

[0007] A multi-relief clam shell package is provided for packaging and displaying tools. In one embodiment, a multi-relief clam shell package first comprises a back shell member. The translucent back shell member has a first display surface, and is bounded by a frame. The first display surface receives a first display panel within the frame. In addition, the back shell member includes one or more second display surfaces. The second display surface is raised above the first display surface. The second display surface is configured to support one or more tools and to display them in a relief fashion.

[0008] The multi-relief clam shell package next includes a front shell member. The front shell member is preferably a translucent panel. The front shell member also has a frame

member, with the frame member of the front shell member being configured to mate with the frame of the back shell member to form a clam shell package. The front shell member includes a first display surface. Additionally the translucent front shell member has one or more second display surfaces raised above the first display surface of the front shell member. Preferably, the first display surface resides closely adjacent the first display surface of the back shell member when the two shell members are mated together. In addition, the second display surface of the front shell member is configured to define one or more chambers with the second display surface of the back shell member. These chambers closely receive tools for secure display.

[0009] In one embodiment, the front shell member further includes one or more third display surfaces. The third display surfaces are configured to be in relief intermediate the second display surface of the back shell member and below the second display surface of the front shell member. In addition, the third display surfaces are offset from the second display surface of the front shell member.

[0010] Both the front shell member and the back shell member preferably have at least one through-opening for receiving a peg. The through-opening of the front shell member is configured to align with the through-opening of the back shell member. The through-openings may be placed along support panels of the front and back shell members.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] So that the manner in which the above recited features of the present invention can be understood in detail, a more particular description of the invention, briefly summarized above, may be had by reference to embodiments, some of which are illustrated in the appended drawings. It is to be noted, however, that the appended drawings illustrate only selected embodiments of this invention and are therefore not to be considered limiting of its scope.

[0012] **FIG. 1** provides a front perspective view of a clam shell package, in one embodiment. The front shell member with its multi level display surfaces and frame are visible.

[0013] **FIG. 2** presents an exploded view of the multi-relief clam shell package of **FIG. 1**. This includes a perspective frontal view of the front shell member and a perspective view of the back shell member. An intermediate display panel is observed.

[0014] **FIG. 3** provides a back view of the clam shell package of **FIG. 1**. The back shell member with its multi level display surfaces and frame are visible.

[0015] **FIG. 4** provides a side view of the clam shell package of **FIGS. 1 and 3**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] Embodiments of the present invention generally relate to an apparatus for displaying tools, such as pliers-type tools. Embodiments of the present invention further relate to a method of securing and packaging a tool.

[0017] **FIG. 1** provides a frontal perspective view of a multi-relief clam shell package **100**, in one embodiment. The clam shell package **100** has two mating components. Those are a front shell member **200** and a back shell member

300. The front **200** and back **300** shell members are configured to mate in order to form a single package for holding and displaying tools (not shown).

[0018] In FIG. 1, only the front shell member **200** is distinguished. It is understood that the back shell member **300** is disposed under the front shell member **300**. However, features of the back shell member **300** are not identified in FIG. 1. Instead, FIG. 2 is provided, which shows the back shell member **300** separated from the front shell member **200**.

[0019] FIG. 2 presents an exploded view of the multi-relief clam shell package, **100** of FIG. 1. This represents a front perspective front view of the front shell member **200** exploded away from the back shell member **300**. Together, the front **200** and back **300** shell members form a clam shell package **100**.

[0020] The front shell member **200** has a frame **210**. The frame **210** generally bounds the front shell member **200**. At an upper end, the frame **210** has a concave surface **214**. Above the concave surface **214**, the frame **210** has a support panel **250**. The support panel **250** has one or more through-openings **252**. The optional through-openings **252** are configured to receive pegs or hooks on a display panel (not shown).

[0021] The back shell member **300** has features the generally correspond to the features of the front shell member **200** described above. In this respect, the back shell member **300** also has a frame **310**. The frame **310** generally bounds the back shell member **300**. At an upper end, the frame **310** has a concave surface **314**. Above the concave surface **314**, the frame **310** has an optional support panel **350**. The support panel **350** has one or more through-openings **352** that align with through-openings **252** of the front shell member **200**. The optional through-openings **352** are also configured to receive pegs or hooks on a display panel (not shown).

[0022] The frame **310** of the back shell member **300** is configured to mate with the frame **210** of the front shell member **200**. Preferably, the frame **210** of the front shell member **200** receives the frame **310** of the back shell member **300**. In this arrangement, the frame **310** of the back shell member **300** may have a lip **312** that serves as a shoulder. However, the present inventions are not limited to the manner in which the frames **210**, **310** are adjoined.

[0023] FIG. 3 provides a back view of the multi-relief clam shell package of FIG. 2. From this figure, only features of the back shell member **300** are distinguished. However, it is again understood that the front shell member **200** is opposite the back shell member **300**.

[0024] Referring again to FIGS. 1 and 2, the front shell member **200** has two or more display surfaces. First, the front shell member **200** has a first display surface **220**. Preferably, the first display surface **220** receives a first display panel (seen partially at **400** in FIG. 2). The frame **210** generally surrounds the first display surface **220**. The front shell member **200** also has a second display surface **230** above the first display surface **220**. As will be described further below, the second display surface **230** aids in supporting tools (not shown) within the clam shell package **100**.

[0025] The front shell member **200** has one or more optional third display surfaces. In the embodiment of FIGS.

1 and 2, three separate third display surfaces are seen at **240**. The third display surfaces **240** may have an elevation that is intermediate the first **220** and second **230** display surfaces. Alternatively, the third display surfaces **240** may extend from the second display surfaces **230**. The third display surfaces **240** serve to secure one or more display cards (not shown). In the arrangement of FIG. 1, the third display surfaces **240** have beveled corners, though this is optional.

[0026] It is preferred that the front shell member **200** be fabricated from a translucent material. Alternatively, at least the first **220**, second **230** and optional third **240** display surfaces are fabricated from a translucent material. The translucent material aids the retailer and the customer in identifying the tools within the clam shell package **100**.

[0027] Referring now to FIGS. 2 and 3, the back shell member **300** also has two or more display surfaces. First, the back shell member **300** has a first display surface **320**. Preferably, the first display surface **320** receives the first display panel **400**. The frame **310** generally surrounds the first display surface **320**. The back shell member **300** also has a second display surface **330** above the first display surface **320**. As will be described further below, the second display surface **330** aids in supporting tools (not shown) within the clam shell package **100**.

[0028] In FIG. 2, three separate second display surfaces **320** are illustrated for supporting three separate tools. However, it is understood that a single second display surface may support one or more tools. The second display surface **330** may be configured in the profile of the tool to be supported. For example, second display surface **330** is shown having a pliers-type tool profile. In an alternate arrangement also shown in FIG. 2, the second display surfaces **330** of the back shell member **300** may define "stands." In FIG. 2, two of the second display surfaces are actually stands for supporting tools. The stands are shown at **340**. The stands **340** also aid in supporting tools within the chambers defined below the second display surfaces **230** of the front shell member **200**.

[0029] In assembling the clam shell package **100**, a back shell member **300** is laid flat on an assembly surface (not shown). A strip label **414** may be placed on the concave labeling surface **314** of the back shell member **300**. Arrow **412** indicates placement of the strip label **414** onto the concave labeling surface **314**. In addition, a first display panel **400** may be placed on the first display surface **320** of the back shell member **300**. Further, second display panels **420** may be placed on the second display surfaces **330**. Arrow **422** indicates placement of a second display panel **420** onto a second display surface **330**.

[0030] As part of the package **100** assembly, the desired tools (not shown) are placed onto the second display surfaces **330**. In the arrangement of FIG. 2, the second display surfaces **330** of the back shell member **300** are generally shaped to conform to the profile of the tools. More specifically, the second display surfaces **330** have portions shaped as various pliers-type tools. Three such surfaces **330** are provided for holding three separate pliers-type tools. However, it is understood that the arrangement of second display surfaces **330** in FIGS. 2 and 3 is purely illustrative, and that other shapes to hold other tools may be employed.

[0031] After the contents, e.g., tools and display panels, are placed onto the back shell member **300**, the front shell

member **200** is placed onto the back shell member **300**. In the particular arrangement of **FIG. 2**, the outer frame **210** of the front shell member **200** is laid onto the frame member **310** of the back shell member **300**. In addition, the second display surfaces **230** of the front shell member **200** are configured to match the second display surfaces **330** of the back shell member **300**. Stated another way, the second display surfaces **330** of the back shell member **300** are configured to fit within the second display surfaces **230** of the front shell member **200**, forming a chamber large enough to hold respective tools such as pliers-type tools.

[0032] It should be noted that a portion of the second display surface **330** of the back shell member **300** may optionally extend adjacent the tool holding portion to form an intermediate third display surface. In **FIG. 2**, third display surface portions **340** are visible. The third display surfaces **340** receive the optional second display panels **420**.

[0033] **FIG. 4** provides a side view of the clam shell package of **FIGS. 1 and 3**. The mating arrangement of the front and back shell members is realized. The display pack **100** is preferably made from two vacuum-formed sheets of clear plastic, sealed around the edges, forming a chamber for holding the product(s). Such a display pack is relatively inexpensive, and benefits from the appealing appearance of the small packaging, which is visible through the display pack.

[0034] While the foregoing is directed to embodiments of the present invention, other and further embodiments of the invention may be devised without departing from the basic scope thereof, and the scope thereof is determined by the claims that follow.

We claim:

1. A multi-relief clam shell package for tools, comprising:

a back shell member comprising:

a first display surface for receiving a first display panel;

a frame around the first display surface; and

a second display surface raised above the first display surface for supporting a tool; and

a front shell member comprising:

a translucent first display surface closely above the first display surface of the back shell member;

a frame around the first display surface of the front shell member, the frame of the front shell member being configured to mate with the frame of the back shell member to form a clam shell package; and

a second display surface raised above the first display surface of the front shell member, the second display surface of the front shell member defining a chamber with the second display surface of the back shell member for receiving the tool.

2. The package of claim 1, further comprising:

a first display panel disposed between the first display surface of the front shell member and the first display surface of the back shell member.

3. The package of claim 1, further comprising:

a third display surface along the back shell member; and

a second display panel disposed between the front shell member and the third display surface of the back shell member.

4. The package of claim 1, wherein:

the back shell member comprises three second display surfaces raised above the first display surface for supporting three tools, respectively; and

the front shell member comprises three second display surfaces to define three chambers with the corresponding three second display surfaces of the back shell member for receiving the three respective tools.

5. The package of claim 4, wherein each of the chambers is configured to receive a pliers-type tool.

6. The package of claim 1, wherein:

the back shell member further comprises a support panel and a through-opening within the support panel for receiving a display peg.

7. The package of claim 6, wherein:

the front shell member also further comprises a support panel and a through-opening within the support panel for receiving a display peg; and

the through-opening of the support panel of the front shell member aligns with the through-opening of the support panel of the back shell member.

8. The package of claim 1, wherein:

the back shell member further comprises an upper concave labeling surface for receiving a strip label.

9. The package of claim 8, wherein:

the front shell member further comprises an upper concave surface configured to align over the upper concave labeling surface of the back shell member.

10. The package of claim 1, further comprising:

a display panel intermediate the first display surfaces of the front and back shell members.

11. The package of claim 1, wherein the front shell member further comprises a third display surface, the third display surface being

in relief, intermediate the first and second display surfaces of the front shell member; and

in position, offset from the second display surface of the front shell member.

12. A multi-relief clam shell package for tools, comprising:

a back shell member comprising:

a first display surface for receiving a first display panel;

a frame around the first display surface;

at least two second display surfaces raised above the first display surface for supporting a tool;

an upper support panel, the upper support panel having at least one through-opening for receiving a peg; and

an upper concave labeling surface; and

a front shell member comprising:

a translucent first display surface closely above the first display surface of the back shell member;

a frame around the first display surface of the front shell member, the frame of the front shell member being configured to mate with the frame of the back shell member to form a clam shell package; and

at least two translucent second display surfaces raised above the first display surface of the front shell

member, the second display surfaces of the front shell member defining chambers with the at least two respective second display surfaces of the back shell member for receiving separate tools.

* * * * *