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(54) **TAMPER-EVIDENT CONSUMER PRODUCT PACKAGING**

(52) **U.S. Cl.**
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(71) Applicant: **Albert A. Werth**, Elk Rapids, MI (US)

(72) Inventor: **Albert A. Werth**, Elk Rapids, MI (US)

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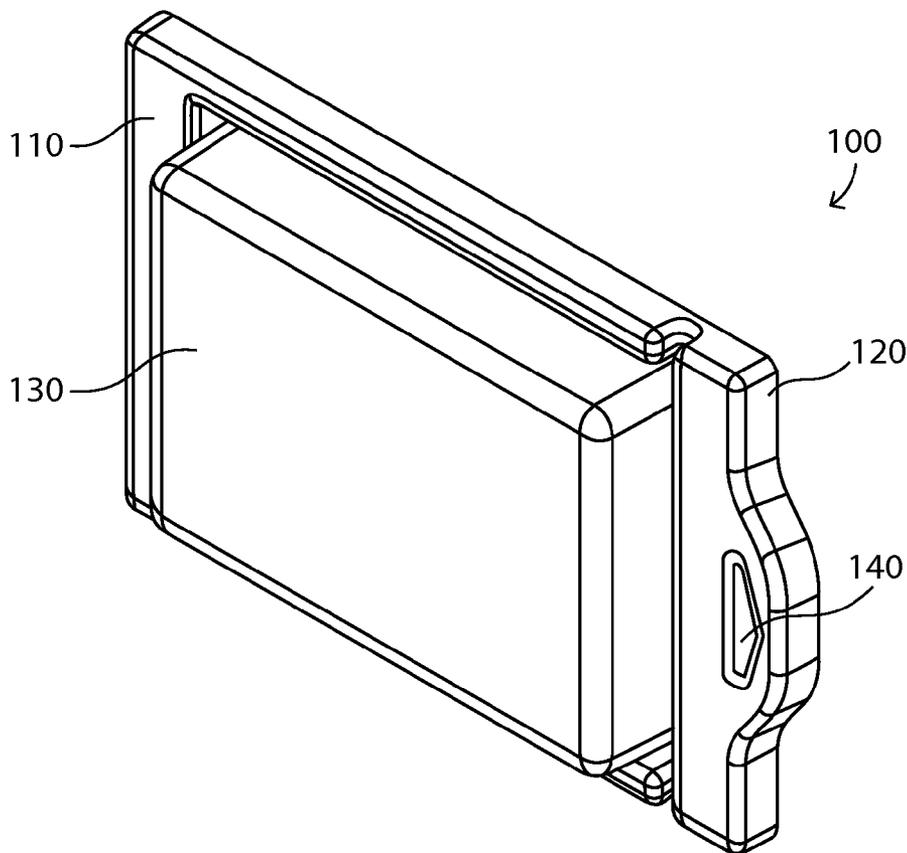
(60) Provisional application No. 61/599,121, filed on Feb. 15, 2012.

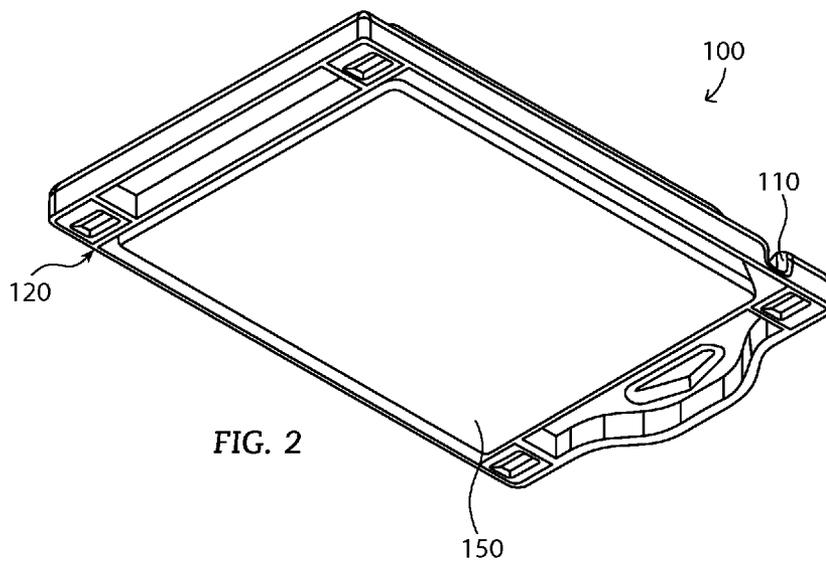
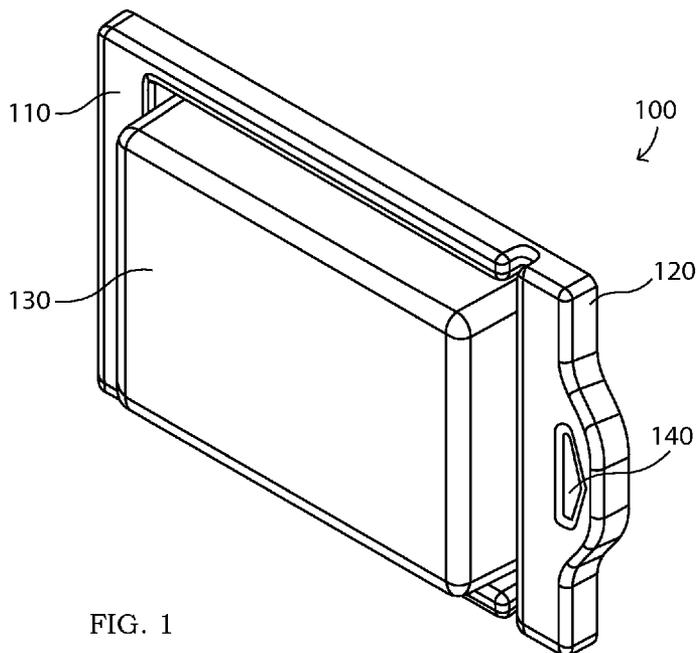
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(57) **ABSTRACT**

The present disclosure is directed to a consumer product package which includes a base and a cover. The base includes a first surface defining an opening wherein the opening includes a pair of opposing opening edges; a pair of opposing flanges, each flange extending linearly from one of the opposing opening edges; and a second surface defining at least one sealing block wherein the at least one sealing block extends linearly from the second surface toward the pair of opposing flanges. The cover includes a pair of opposing clip arms, each clip arm extending linearly from the cover and including a detent for sealingly engaging one of the opposing flanges and an angled face for sealingly engaging the sealing block. The consumer product package can enable a tamper-evident seal between the base and the cover.





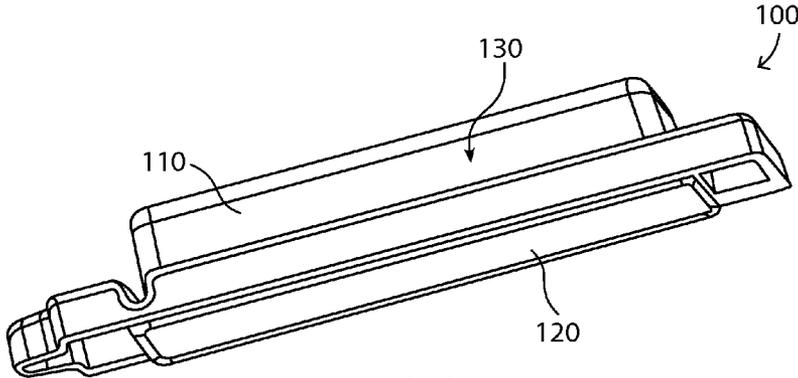


FIG. 3

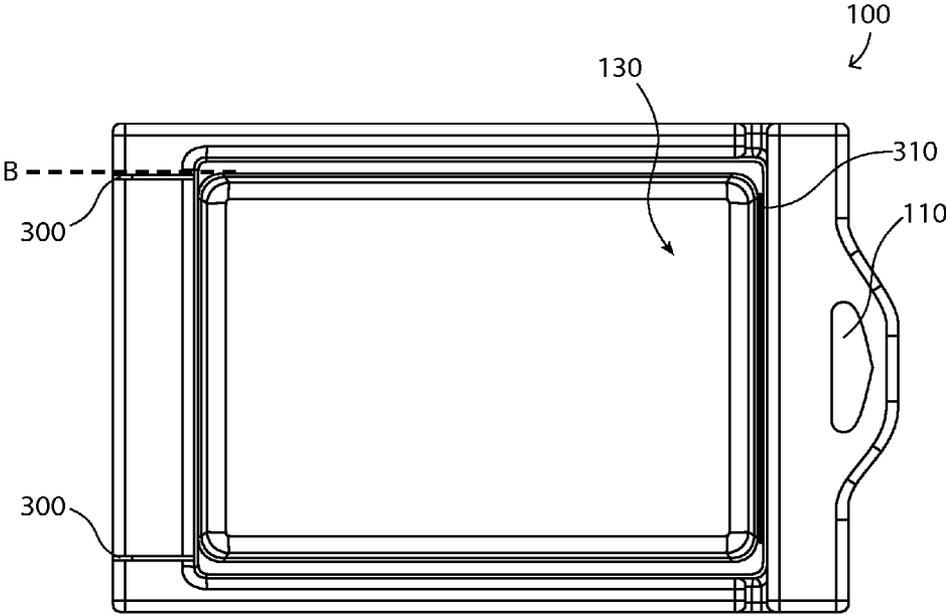


FIG. 4

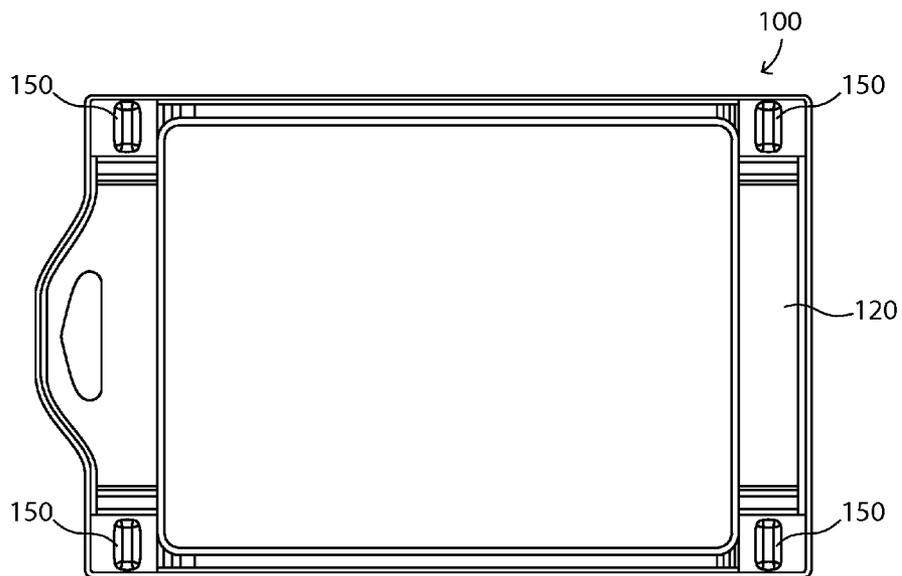


FIG. 5

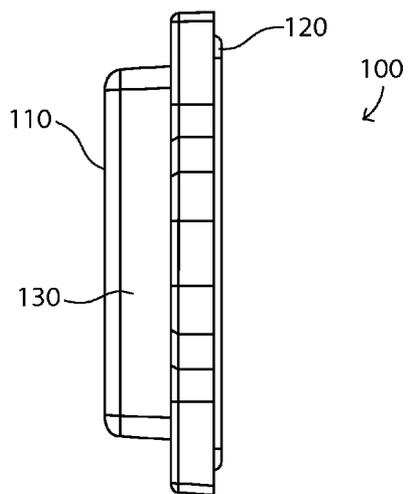


FIG. 6

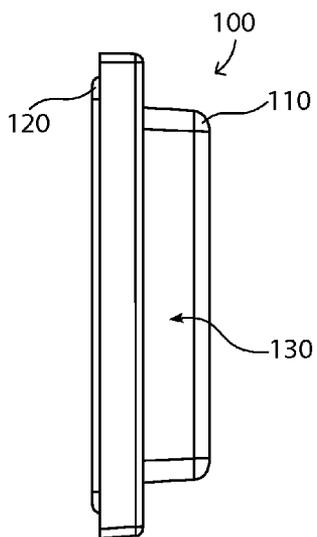


FIG. 7

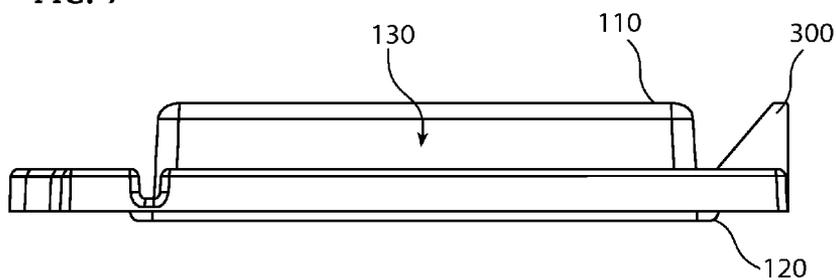


FIG. 8

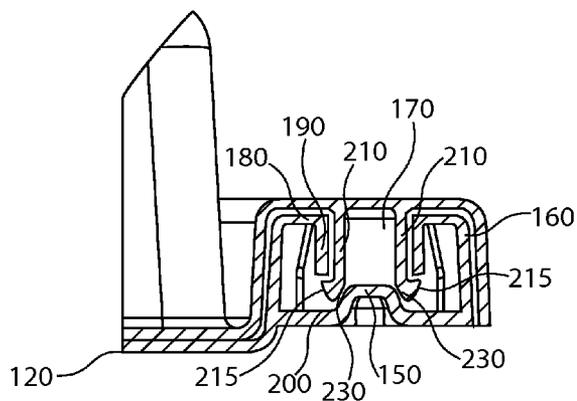
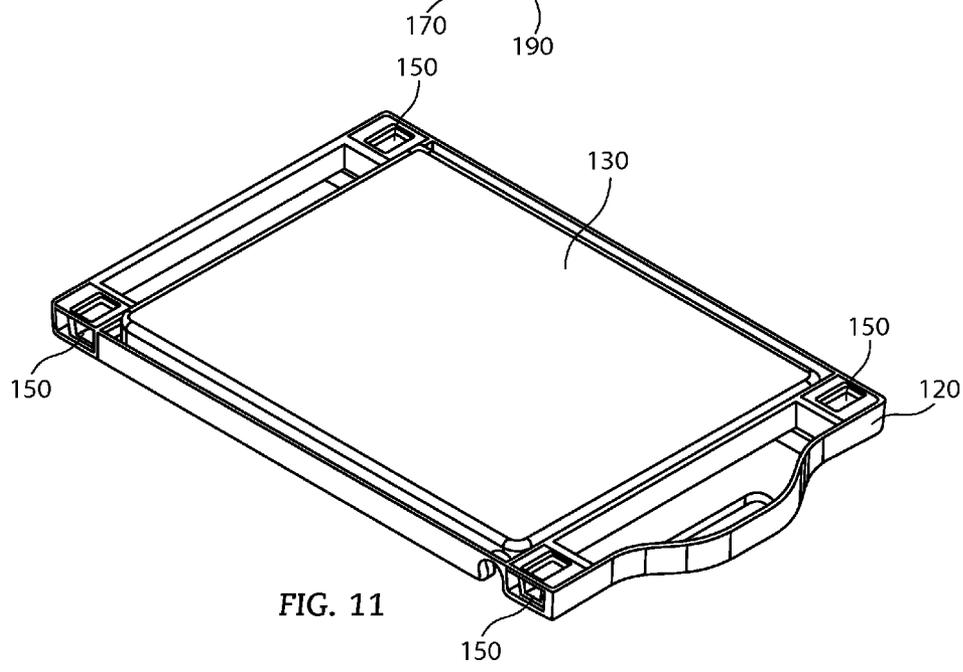
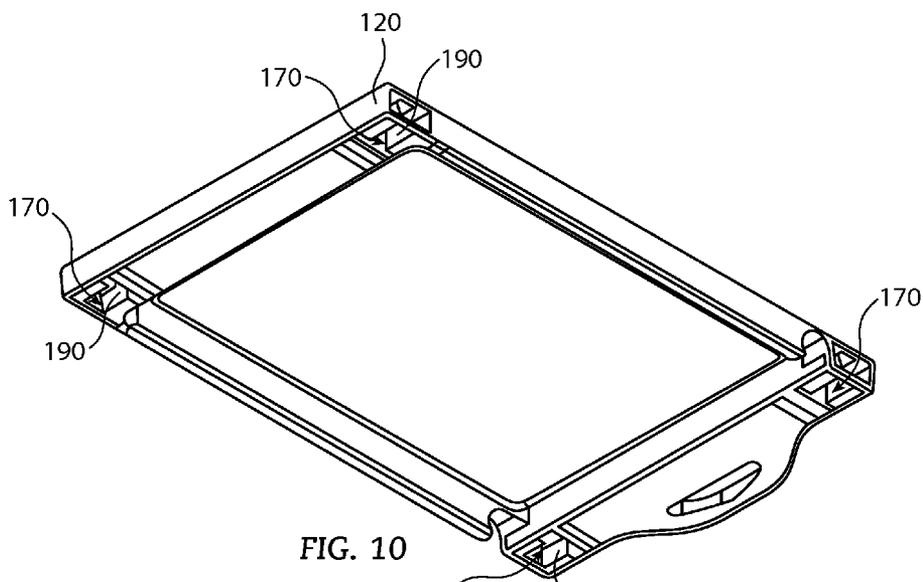


FIG. 9



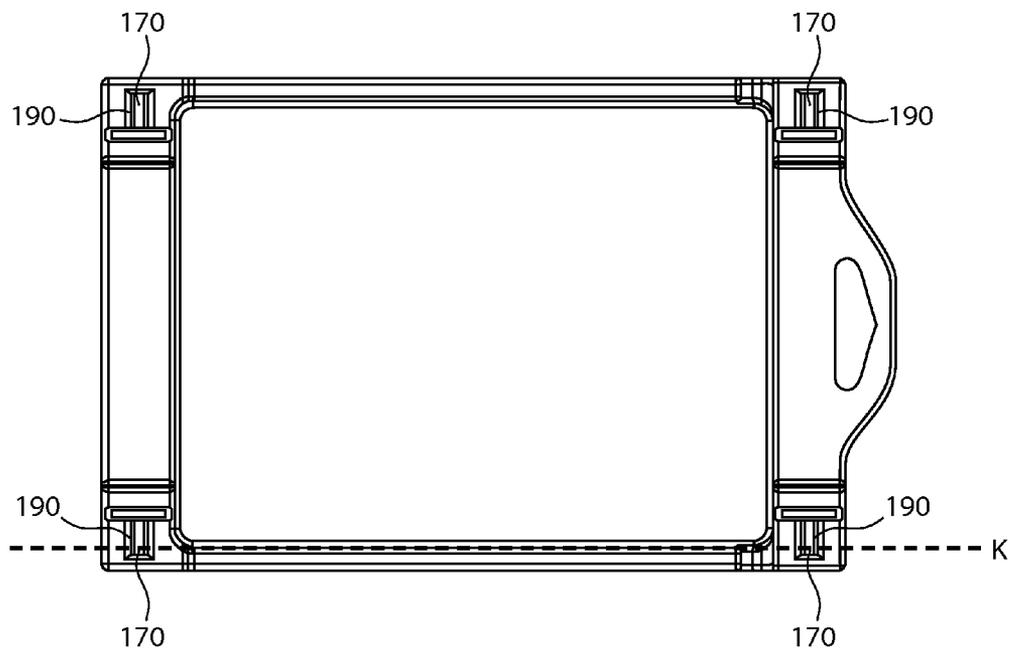


FIG. 12

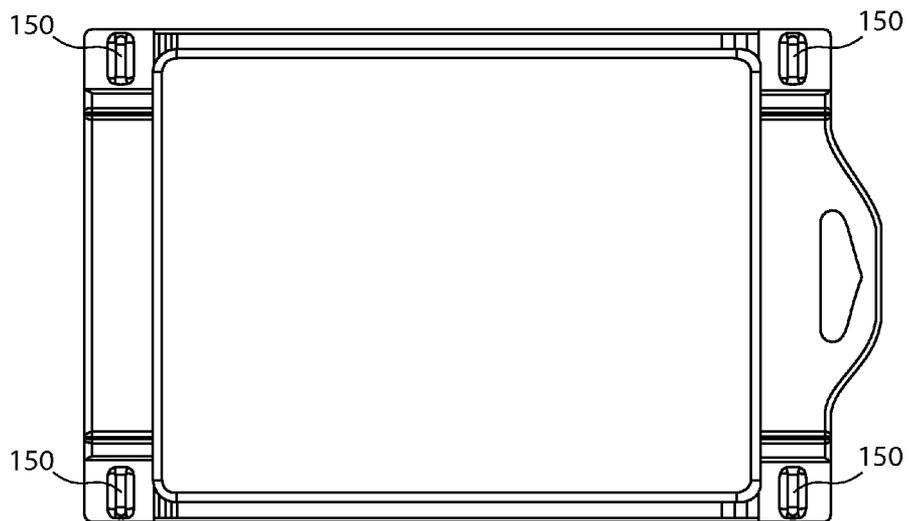


FIG. 13

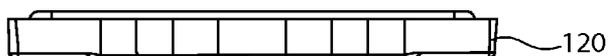


FIG. 14

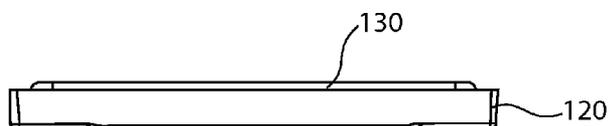


FIG. 15

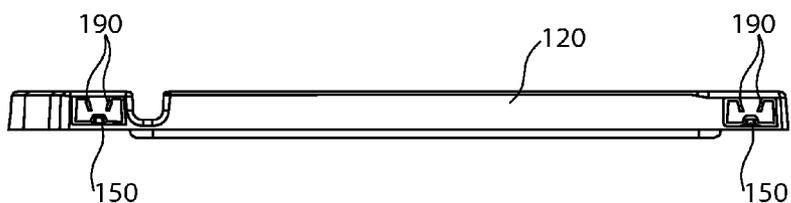


FIG. 16

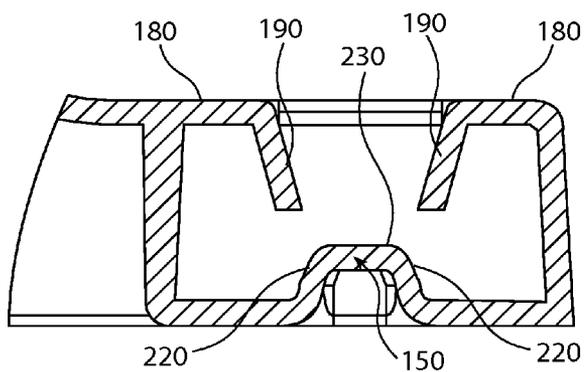


FIG. 17

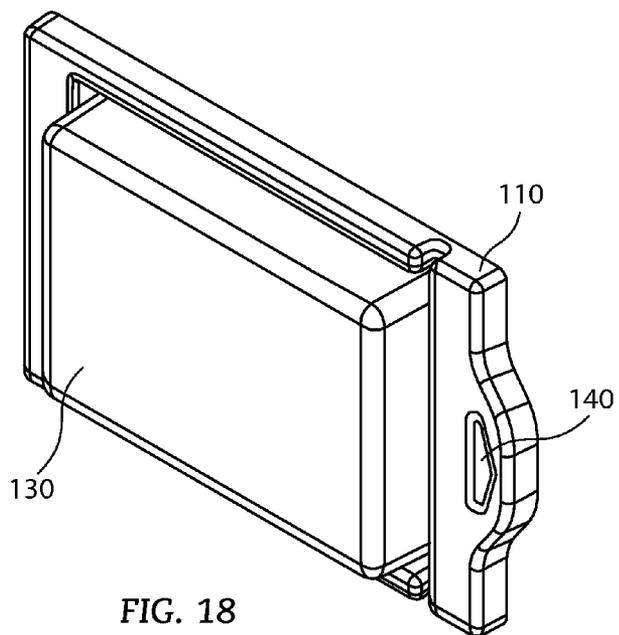


FIG. 18

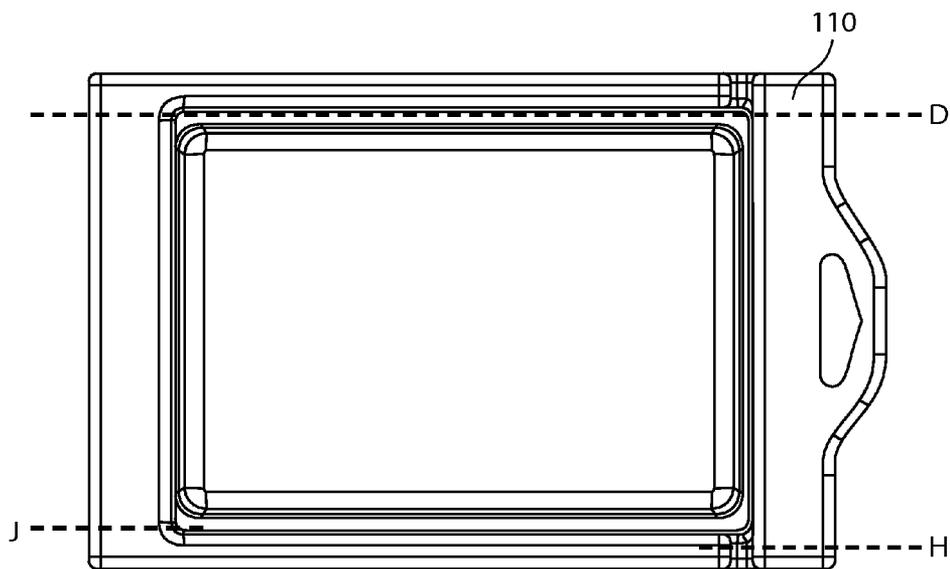


FIG. 19

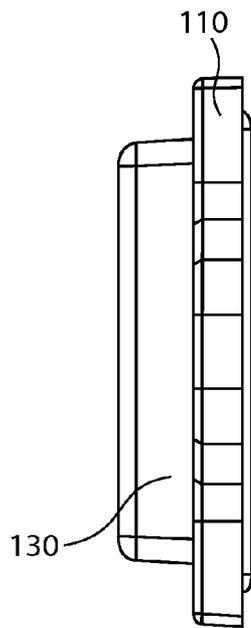


FIG. 20

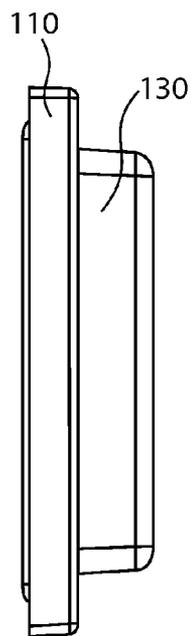


FIG. 21

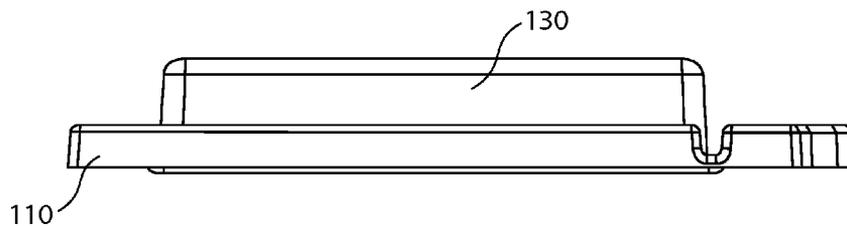


FIG. 22

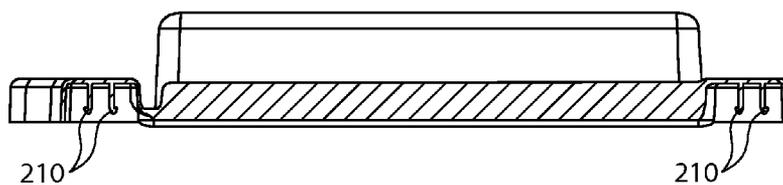


FIG. 23

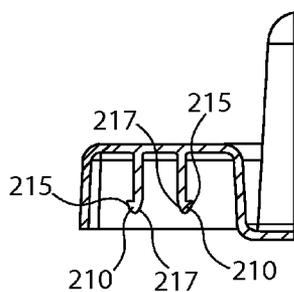


FIG. 24

TAMPER-EVIDENT CONSUMER PRODUCT PACKAGING

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present application claims priority from U.S. Provisional Patent Application No. 61/599,121 entitled "Tamper-Evident Consumer Product Packaging," by Albert A. Werth filed Feb. 15, 2012, which is incorporated by reference herein in its entirety

FIELD OF THE DISCLOSURE

[0002] The present invention relates in general to consumer product packaging and in particular to tamper-evident consumer product packaging.

BACKGROUND

[0003] Consumer product packaging can serve various functions for the manufacturer and the consumer. Consumer product packaging can provide a means of protecting materials from damage during shipping, a means of displaying products for sale by a retailer, and a means of securing products against theft, among other functions.

SUMMARY

[0004] Disclosed here is a tamper-evident product-packaging apparatus.

[0005] According to one aspect, a consumer product package comprises: a base including: a first surface defining an opening wherein the opening includes a pair of opposing opening edges; a pair of opposing flanges, each flange extending linearly from one of the opposing opening edges; and a second surface defining at least one sealing block wherein the at least one sealing block extends linearly from the second surface toward the pair of opposing flanges; and a cover including: a pair of opposing clip arms, each clip arm extending linearly from the cover and including a detent for sealingly engaging one of the opposing flanges and an angled face for sealingly engaging the sealing block.

[0006] According to another aspect, a consumer product package comprises: a base including: a first surface defining an opening wherein the opening includes a pair of opposing opening edges; a pair of opposing flanges, each flange extending angularly from one of the opposing opening edges towards the other flange; and a second surface defining at least one sealing block wherein the at least one sealing block extends linearly from the second surface toward the pair of opposing flanges; and a cover including: a pair of opposing clip arms, each clip arm extending linearly from the cover and including a detent for sealingly engaging one of the opposing flanges and an angled face for sealingly engaging the sealing block.

[0007] In further embodiments, the at least one sealing block can include: a pair of block sides extending linearly from the second surface toward the pair of flanges; and a block top extending horizontally between the pair of block sides.

[0008] In further embodiments, the sealing block can have a trapezoidal shape and wherein each of the block sides extends angularly towards the other block side and terminates at the block top.

[0009] In further embodiments, the detent and the opposing flanges can be sealingly engaged thereby forming a tamper evident seal between the base and the cover.

[0010] In further embodiments, the sealing block can be covered from direct access to the sealing block.

[0011] In further embodiments, the base and the cover can be adapted to form a press-fit seal.

[0012] In further embodiments, the base and the cover can be adapted to form a tamper-evident press-fit seal.

[0013] In further embodiments, the consumer product packaging can further include a means for hanging the tamper-evident product package from a retail display.

[0014] In further embodiments, the base and the cover can further comprise a chamber for holding and displaying a consumer product.

[0015] In further embodiments, when the cover and the base are sealingly engaged, there can be no direct access to the pair of opposing clip arms or the pair of opposing flanges.

[0016] In further embodiments, the block top can extend substantially perpendicular to the pair of opposing flanges.

[0017] In further embodiments, the block sides can extend in a different direction than the pair of opposing flanges.

[0018] In further embodiments, the pair of opposing opening edges can extend in substantially the same direction as the block top.

[0019] In further embodiments, the the pair of opposing clip arms and/or the pair of opposing flanges can be adapted to be damaged if the sealing block is attempted to be pried apart with a sufficient force. The damage can be visually apparent to the naked eye.

[0020] These and other embodiments will be described in additional detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] The description herein makes reference to the accompanying drawings wherein like reference numerals refer to like parts throughout the several views, and wherein: [0022] FIG. 1 is a front perspective view of an embodiment of the tamper-evident product packaging in an assembled configuration;

[0023] FIG. 2 is a bottom perspective view of the tamper-evident product packaging of FIG. 1;

[0024] FIG. 3 is a side perspective view of the tamper-evident product packaging of FIG. 1;

[0025] FIG. 4 is a top plan view of the tamper-evident product packaging of FIG. 1;

[0026] FIG. 5 is a bottom plan view of the tamper-evident product packaging of FIG. 1;

[0027] FIG. 6 is a top elevational view of the tamper-evident product packaging of FIG. 1;

[0028] FIG. 7 is a bottom elevational view of the tamper-evident product packaging of FIG. 1;

[0029] FIG. 8 is a side elevational view of the tamper-evident product packaging of FIG. 1;

[0030] FIG. 9 is a sectional view of the tamper-evident product packaging of FIG. 4 through section B;

[0031] FIG. 10 is a top perspective view of the base of the tamper-evident product packaging of FIG. 1 in a disassembled configuration;

[0032] FIG. 11 is a bottom perspective view of the base of FIG. 10;

[0033] FIG. 12 is a top plan view of the base of FIG. 10;

[0034] FIG. 13 is a bottom plan view of the base of FIG. 10;

[0035] FIG. 14 is a top elevational view of the base of FIG. 10;
 [0036] FIG. 15 is a bottom elevational view of the base of FIG. 10;
 [0037] FIG. 16 is a sectional view of the base of FIG. 12 through section K;
 [0038] FIG. 17 is a sectional view of the base of FIG. 12 through a portion of section K;
 [0039] FIG. 18 is a front perspective view of the cover of the tamper-evident product packaging of FIG. 1 in a disassembled configuration;
 [0040] FIG. 19 is a top plan view of the cover of FIG. 18;
 [0041] FIG. 20 is a top elevational view of the cover of FIG. 18;
 [0042] FIG. 21 is a bottom elevational view of the cover of FIG. 18;
 [0043] FIG. 22 is a side elevational view of the cover of FIG. 18;
 [0044] FIG. 23 is a sectional view of the cover of FIG. 19 through section D; and
 [0045] FIG. 24 is a sectional view of the cover of FIG. 19 through section J.

DETAILED DESCRIPTION

[0046] The consumer product package described in the embodiments below provides a means for protecting a consumer product from damage during shipping, a means for displaying a consumer product in a retail outlet, and a method of securing the consumer product within the consumer product packaging against theft. The consumer product package can also resist tampering and provide evidence of attempted tampering.

[0047] FIG. 1 is a front perspective view of an embodiment of the tamper-evident product packaging 100 in an assembled configuration. The cover 110 of the tamper-evident product packaging 100 includes a chamber 130 for holding and displaying the consumer product as well as a means 140 for hanging the tamper-evident product package from a retail display.

[0048] FIG. 2 is a bottom perspective view of the tamper-evident product packaging of FIG. 1. The base 120 of the tamper-evident product packaging 100 also includes a chamber 130 for holding and displaying a consumer product that extends and seals the chamber within the cover 110 when the base 120 and the cover 110 are in the assembled configuration.

[0049] FIG. 3 is a side perspective view of the tamper-evident product packaging of FIG. 1. The chamber 130 for holding and displaying a consumer product is identified as partially within the cover 110 and partially within the base 120.

[0050] FIG. 4 is a top plan view of the tamper-evident product packaging of FIG. 1. The means 140 for hanging the tamper-evident product package from a retail display is shown adjacent to the chamber 130 for holding and displaying the consumer product. A section, B, is shown passing through the chamber 130 and a planar surface of the cover 110. Section B will be further described below in FIG. 9. The tamper-evident product packaging illustrated in FIG. 4 and FIG. 8 further includes a pair of feet members 300 disposed in the bottom region of the cover. FIG. 8 will be described in more detail below. The pair of feet members 300 can assist to position the tamper-evident product packaging in the upright position to display the consumer product held therein. In

certain embodiments, the pair of feet members may have a generally triangular shape. In other embodiments, the pair of feet members may have any desired shape which allows the consumer product packaging to be positioned in an upright manner for display. Also illustrated in FIG. 4 is an opening 310 disposed adjacent to the chamber 130. The opening 310 may provide access to a consumer to open the product packaging. As illustrated, the opening 310 is present in both the cover and the base such that when the cover and base are engaged, the opening 310 in the cover and the opening 310 in the base substantially align. For example, a consumer can insert a knife or scissors in the opening 310 and cut the product packaging so as to easily access the consumer product within the chamber 130. Moreover, a consumer can cut the portion of the tamper-evident product packaging between the edge of the tamper-evident product packaging and the opening so that the consumer does not have to cut all the way across the width of the entire tamper-evident product packaging.

[0051] FIG. 5 is a bottom plan view of the tamper-evident product packaging of FIG. 1. The base 120 of the tamper-evident product packaging 100 includes a surface surrounding the chamber defining a plurality of sealing blocks 150. For example, in this embodiment there are four sealing blocks 150 located at the corners of the tamper-evident product packaging. There can be any number of desired sealing blocks within the tamper-evident product packaging. The sealing blocks can further be arranged in any desired configuration, and can depend, in part, on the size of the consumer product to be packaged. In certain embodiments, there may be a sufficient number of sealing blocks such that the consumer product packaging is tamper-evident.

[0052] FIG. 6 is a top elevational view of the tamper-evident product packaging of FIG. 1. FIG. 7 is a bottom elevational view of the tamper-evident product packaging of FIG. 1. FIG. 8 is a side elevational view of the tamper-evident product packaging of FIG. 1. In each of FIGS. 6-8, the cover 110 and the base 120 of the tamper-evident product packaging 100 are assembled to form the sealed chamber 130 for holding and displaying a consumer product.

[0053] FIG. 9 is a sectional view of the tamper-evident product packaging of FIG. 4 through section B. In this embodiment, the base 120 includes a first surface 160 defining an opening 170. The opening 170 in the first surface of the base includes a pair of opposing opening edges 180. A pair of opposing flanges 190 extends linearly from the opposing opening edges 180 toward the seal block 150 defined in a second surface 200 of the base 120. The sealing block 150 extends linearly from the second surface 200 of the base 120 toward the pair of opposing flanges 190. The section B also shows the cover 110 including a pair of opposing clip arms 210, each clip arm 210 extending linearly from the cover and including a detent 215 for sealingly engaging one of the opposing flanges 190 and an angled face 217 for sealingly engaging the sealing block 150 on the second surface 200 of the base 120.

[0054] The seal between the base 120 and the cover 110 is tamper-evident. There is no access to release the clip arms 210 from the flanges 190 once engaged. Attempts to pry apart the cover 110 and the base 120 when all corners have been sealed can result in breakage of the clip arms 210 or the flanges 190, thus providing evidence that an attempt has been made to reach the consumer product inside the tamper-evident product packaging. The seal is created by pressing, or

forcing, the cover and the base together until the clip arms engage the flanges and the sealing block. The remaining figures are described only briefly, as they show the cover and base in a disassembled configuration.

[0055] FIG. 10 is a top perspective view of the base 120 of the tamper-evident product packaging of FIG. 1 in a disassembled configuration. In this embodiment, a plurality of openings 170 and opposing flanges 190 can be seen at the corners of the chamber within the base.

[0056] FIG. 11 is a bottom perspective view of the base 120 of FIG. 10. In this embodiment, a plurality of sealing blocks 150 can be seen at the corners of the chamber 130 within the base 120.

[0057] FIG. 12 is a top plan view of the base of FIG. 10. In this embodiment, a plurality of openings 170 and opposing flanges 190 can be seen at the corners of the chamber within the base 120. A section, K, is shown passing through the chamber, two openings 170, and two pairs of opposing flanges 190 within the base 120. Section K will be further described below in FIGS. 16 and 17.

[0058] FIG. 13 is a bottom plan view of the base of FIG. 10. In this embodiment, a plurality of sealing blocks 150 can be seen at the corners of the chamber within the base.

[0059] FIG. 14 is a top elevational view of the base 120 of FIG. 10. FIG. 15 is a bottom elevational view of the base 120 of FIG. 10. In each of FIGS. 14-15, a portion of the sealed chamber 130 is shown for holding and displaying a consumer product.

[0060] FIG. 16 is a sectional view of the base 120 of FIG. 12 through section K. FIG. 17 is a sectional view of the base 120 of FIG. 12 through a portion of section K. In the embodiment shown in FIGS. 16-17, each flange 190 of the pair of opposing flanges extends angularly from one of the opposing opening edges 180 towards the other flange for enabling a press-fit seal between the pair of opposing flanges 190 and the pair of opposing clip arms and the pair of opposing flanges and the sealing block 150.

[0061] FIG. 17 further shows that the sealing block includes a pair of block sides 220 extending linearly from the second surface of the base 120 toward the pair of flanges 190. The sealing block 150 also includes a block top 230 extending horizontally between the pair of block sides 220. The sealing block 150 has a trapezoidal shape and each of the block sides 220 extends angularly towards the other block side 220 and terminates at the block top 230.

[0062] FIG. 18 is a front perspective view of the cover 110 of the tamper-evident product packaging of FIG. 1 in a disassembled configuration. In this embodiment, the chamber 130 for holding and displaying the consumer product is shown as is the means 140 for hanging the tamper-evident product package from a retail display.

[0063] FIG. 19 is a top plan view of the cover 110 of FIG. 18. A first section, D, is shown passing through the length of the cover 110. Section D will be further described below in FIG. 23. A second section, J-J, is shown passing through a corner of the cover. Section J-J will be further described below in FIG. 24.

[0064] FIG. 20 is a top elevational view of the cover 110 of FIG. 18. FIG. 21 is a bottom elevational view of the cover 110 of FIG. 18. FIG. 22 is a side elevational view of the cover 110 of FIG. 18. In each of FIGS. 20-22, a portion of the sealed chamber 130 is shown for holding and displaying a consumer product.

[0065] FIG. 23 is a sectional view of the cover 110 of FIG. 19 through section D-D. FIG. 24 is a sectional view of the cover 110 of FIG. 19 through section J-J. In each of FIGS. 23-24, the opposing clip arms 210 extend from the cover 110 and each include a detent 215 for sealingly engaging one of the opposing flanges in the base. The opposing clip arms 210 also include an angled face 217 for sealing against the sealing block in the base.

[0066] While this disclosure includes what is presently considered to be the most practical and preferred embodiments, it is to be understood that the disclosure is not to be limited to the disclosed embodiments but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims, which scope is to be accorded the broadest interpretation so as to encompass all such modifications and equivalent structures as is permitted under the law.

What is claimed is:

1. A consumer product package comprising:
 - a base including:
 - a first surface defining an opening wherein the opening includes a pair of opposing opening edges;
 - a pair of opposing flanges, each flange extending linearly from one of the opposing opening edges; and
 - a second surface defining at least one sealing block wherein the at least one sealing block extends linearly from the second surface toward the pair of opposing flanges; and
 - a cover including:
 - a pair of opposing clip arms, each clip arm extending linearly from the cover and including a detent for sealingly engaging one of the opposing flanges and an angled face for sealingly engaging the sealing block.
2. The consumer product package of claim 1 wherein the at least one sealing block includes:
 - a pair of block sides extending linearly from the second surface toward the pair of flanges; and
 - a block top extending horizontally between the pair of block sides.
3. The consumer product package of claim 2 wherein the sealing block has a trapezoidal shape and wherein each of the block sides extends angularly towards the other block side and terminates at the block top.
4. The consumer product package of claim 1, wherein the detent and the opposing flanges are sealingly engaged thereby forming a tamper evident seal between the base and the cover.
5. The consumer product package of claim 4, wherein the sealing block is covered from direct access to the sealing block.
6. The consumer product package of claim 1, wherein the base and the cover are adapted to form a press-fit seal.
7. The consumer product package of claim 1, wherein the base and the cover are adapted to form a tamper-evident press-fit seal.
8. The consumer product package of claim 1, further comprising a means for hanging the tamper-evident product package from a retail display.
9. The consumer product package of claim 1, wherein the base and the cover further comprise a chamber for holding and displaying a consumer product.
10. The consumer product package of claim 1, wherein when the cover and the base are sealingly engaged, there is no direct access to the pair of opposing clip arms or the pair of opposing flanges.

11. The consumer product package of claim 1, wherein the block top extends substantially perpendicular to the pair of opposing flanges.

12. The consumer product package of claim 1, wherein the pair of opposing opening edges extend in substantially the same direction as the block top.

13. The consumer product package of claim 1, wherein the sealing block is adapted to damage the pair of opposing clip arms or the pair of opposing flanges if the sealing block is attempted to be pried apart with a sufficient force.

14. A consumer product package comprising:

a base including:

a first surface defining an opening wherein the opening includes a pair of opposing opening edges;

a pair of opposing flanges, each flange extending angularly from one of the opposing opening edges towards the other flange; and

a second surface defining at least one sealing block wherein the at least one sealing block extends linearly from the second surface toward the pair of opposing flanges; and

a cover including:

a pair of opposing clip arms, each clip arm extending linearly from the cover and including a detent for sealingly engaging one of the opposing flanges and an angled face for sealingly engaging the sealing block.

15. The consumer product package of claim 14, wherein the block sides extend in a different direction than the pair of opposing flanges.

16. The consumer product package of claim 14, wherein the at least one sealing block includes:

a pair of block sides extending linearly from the second surface toward the pair of flanges; and

a block top extending horizontally between the pair of block sides.

17. The consumer product package of claim 16 wherein the sealing block has a trapezoidal shape and wherein each of the block sides extends angularly towards the other block side and terminates at the block top.

18. The consumer product package of claim 14, wherein the detent and the opposing flanges are sealingly engaged thereby forming a tamper evident seal between the base and the cover.

19. The consumer product package of claim 14, wherein the base and the cover are adapted to form a tamper-evident press-fit seal.

20. The consumer product package of claim 14, wherein when the cover and the base are sealingly engaged, there is no direct access to the pair of opposing clip arms or the pair of opposing flanges.

* * * * *