

(19) **DANMARK**

(10) **DK/EP 4058375 T3**



(12) **Oversættelse af  
europæisk patentskrift**

Patent- og  
Varemærkestyrelsen

- 
- (51) Int.Cl.: **B 65 D 75/32 (2006.01)** **B 65 D 75/36 (2006.01)** **B 65 D 83/04 (2006.01)**
- (45) Oversættelsen bekendtgjort den: **2024-01-29**
- (80) Dato for Den Europæiske Patentmyndigheds bekendtgørelse om meddelelse af patentet: **2023-10-25**
- (86) Europæisk ansøgning nr.: **20820658.1**
- (86) Europæisk indleveringsdag: **2020-11-12**
- (87) Den europæiske ansøgnings publiceringsdag: **2022-09-21**
- (86) International ansøgning nr.: **US2020060199**
- (87) Internationalt publikationsnr.: **WO2021097072**
- (30) Prioritet: **2019-11-14 US 201962935446 P**
- (84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**
- (73) Patenthaver: **Perfetti Van Melle Benelux B.V., Zoete Inval 20, 4815 HK Breda, Holland**
- (72) Opfinder: **COLLIER, Paul, 100 Deforest Ave., East Hanover, New Jersey 07936, USA**
- (74) Fuldmægtig i Danmark: **Holme Patent A/S, Valbygårdsvej 33, 2500 Valby, Danmark**
- (54) Benævnelse: **Blisterpakning med manipulationsbevis**
- (56) Fremdragne publikationer:  
**EP-A1- 2 336 045**  
**WO-A2-2007/024897**  
**FR-A- 1 527 556**  
**GB-A- 2 296 700**  
**US-A1- 2008 078 690**



# DESCRIPTION

## FIELD

[0001] The present disclosure relates to a tamper evident blister package and methods thereof.

## BACKGROUND

[0002] Conventional packaging of products such as food items and drug products likely to be ingested by consumers has involved considerations such as preventing physical damage to the product or maintaining the product free of bacterial, chemical or microbial contamination. More recently, manufacturers of packaged products have also taken into account the possibility that their product may be deliberately interfered with by a third party. Tampering with products is a concern for all goods manufacturers because of the effect such tampering may have on product performance and therefore the reputation and good name of the manufacturer as well as possibly injuring those using the tampered products. The problems faced by those in the food and drug industries, where the products are ingested are particularly acute. Contamination of food and drug products with dangerous materials can have severe consequences.

[0003] It is therefore desirable for the retailer, the consumer and the manufacturer to have a method of determining whether or not a package has been altered. In such cases, the product can be rejected to thereby reduce the likelihood of consumption of a product that has been tampered with.

[0004] One such conventional method is disclosed in EP0162378 assigned to Intini. Intini concerns a tamper evident package with a blister pack that is sealed between a front layer and a back layer through apertures created through the blister pack. In other words, apertures are formed through the blister pack to allow front/back layers to bond to each other.

[0005] Despite such conventional packaging methods, the fact remains that the malicious interference with products still occurs and can result in huge losses, e.g., in lost sales, as well as, consumer confidence.

[0006] The invention is therefore directed at a packaging system and method that provides a visual indication of product opening and, therefore of product tampering. The packaging system and method of the present invention is adaptable for use in a variety of environments and may be incorporated into a number of existing packaging apparatuses with minimum effort.

**[0007]** FR-A-1527556 describes packaging consisting of a container with one or more compartments.

**[0008]** EP-A-2336045 describes packaging for drugs in the form of pastilles. The tablet dispenser box has a front face provided with cutouts.

**BRIEF SUMMARY**

**[0009]** According to an embodiment, a tamper evident blister package is provided comprising a blister assembly defining at least one cavity, the opening of the at least one cavity being at least partially closed by a membrane. Further, a sleeve housing the blister assembly is provided, the sleeve having a top side and a bottom side, the bottom side having a contact window that is aligned with the cavity. Further, a pressure sensitive adhesive is applied to the bottom side and covers the contact window. The pressure sensitive adhesive is further applied to the membrane covering the cavity through the contact window.

**[0010]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the pressure sensitive adhesive prevents lateral removal of the blister assembly from the sleeve.

**[0011]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the pressure sensitive adhesive is perforated and circumferentially outlines the contact window of the sleeve.

**[0012]** In addition to one or more of the features described above, or as an alternative, in further embodiments comprising an indicia of origin or manufacture printed over the pressure sensitive adhesive, and the contact window.

**[0013]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the membrane is a foil, plastic or paperboard.

**[0014]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the cavity contains a pellet.

**[0015]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the sleeve further comprises an access window aligned with the cavity on the top side of the sleeve for allowing pressure dispensing of the pellet through the contact window.

**[0016]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the contact window is sufficiently sized to allow the pellet to pass therethrough.

**[0017]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the pressure sensitive adhesive is permanent.

**[0018]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the pressure sensitive adhesive includes an elastomer and a tackifier.

**[0019]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the elastomer is a natural rubber, vinyl ether, acrylic, butyl rubber, styrene block copolymer, silicone or nitrile.

**[0020]** In addition to one or more of the features described above, or as an alternative, in further embodiments tackifier is a terpene, aromatic resin, hydrogenated hydrocarbon.

**[0021]** According to yet another embodiment, a method of manufacturing a tamper evident blister package is provided comprising the acts of providing a blister assembly defining at least one cavity, the opening of the at least one cavity being at least partially closed by a membrane. Further, housing the blister assembly in a sleeve, the sleeve having a top side and a bottom side, the bottom side having a contact window that is aligned with the cavity. Further, applying a pressure sensitive adhesive applied to the bottom side and covering the contact window; and applying the pressure sensitive adhesive to the membrane covering the cavity through the contact window.

**[0022]** In addition to one or more of the features described above, or as an alternative, in further embodiments wherein the package integrity feature prevents lateral removal of the blister assembly from the sleeve.

**[0023]** In addition to one or more of the features described above, or as an alternative, in further embodiments comprising the act of perforating the pressure sensitive adhesive and circumferentially outlining the contact window of the sleeve.

**[0024]** In addition to one or more of the features described above, or as an alternative, in further embodiments comprising the act of printing an indicia or origin or manufacture over the pressure sensitive adhesive, and the contact window.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

**[0025]** The accompanying drawings incorporated in and forming a part of the specification embodies several aspects of the present invention and, together with the description, serve to explain the principles of the invention. In the drawings:

FIG. 1 is a plan view illustrating a front side of the tamper evident blister package according to an embodiment;

FIG. 2 is a plan view illustrating a back side of the tamper evident blister package having the pressure sensitive adhesive applied thereon along with an indicia or origin or manufacture according to an embodiment;

FIG. 3 is a plan view illustrating a back side of the tamper evident blister package in a tampered state according to an embodiment;

FIG. 4 is a plan view illustrating a front side of the tamper evident blister package with user pressure being applied to the cavity to dispense the pellet through the access window according to an embodiment;

FIG. 5 is a plan view illustrating a back side of the tamper evident blister package in a tampered state, with the blister assembly removed from the sleeve according to an embodiment; and

FIG.6 is a side-sectional view illustrating the tamper evident blister package according to an embodiment.

## **DETAILED DESCRIPTION**

**[0026]** The following disclosure will detail particular embodiments that provide improvements for tamper/integrity evident packages and methods wherein a pressure-sensitive adhesive layer is, in one embodiment, bonded to the backing material of the blister cavity and/or compartment through a contact window that is provided in the sleeve. The contact window is provided with an opening sufficient to allow any products and/or pellets in the blister cavity to be released therefrom. The pressure sensitive adhesive layer may be optionally perforated in a manner generally, vertically aligned with the contact window.

**[0027]** Referring now the drawings, Figs.1-5 disclose a tamper evident blister package 1, having a sleeve 3 with a top side 3A and a bottom side 3B. Package 1 houses a blister assembly 12 with a cavity 7, which contains a consumable product or pellet 9. Pellet 9 can be any one of a food product, such as chewing gum or other confectionary or pharmaceutical pill as desired. The sleeve 3 may have cut outs 13 on the bottom side 3B to allow easy reach and access to the blister assembly 12. One or more access windows 5 that allow for user interaction via digital pressure or force to dispense the pellet 9 from the cavity 7 may also be provided. User access and interaction with the pellet 9 in the blister assembly 12 may be accomplished by pressure or other means directly on the top side 3A via visual location cues, such as, indents or outline provided on the sleeve 3.

**[0028]** As shown in Fig. 2 and 3, contact window 21 is provided on the bottom side 3B of sleeve 3 directly over and vertically aligned with at least one of the blister cavities 7. The contact window 21 is aligned opposite access window 5 and has an opening that is sufficiently

wide to allow the pellet 9 to be dispensed from the cavity 7. Once the product/pellet 9 has been packaged in the cavity 7 of the blister assembly 12, the blister assembly 12 is slidably inserted into the sleeve 3 wherein the contact window 21 vertically aligns with any one of the blister cavities 7. The cavity 7 may be enclosed by a membrane or backing material 19, such as, foil, plastic or paperboard. Multiple contact windows 21 can be created in the sleeve 3 as desired.

**[0029]** Thereafter, a pressure sensitive adhesive 15 is applied to the bottom side 3B of the sleeve 3 over the contact window 21. This adhesive layer 15 then bonds to both the sleeve 3 and the backing material 19 of the blister cavity 7 through the contact window 21, locking the sleeve 3 and the blister assembly 12 together (via the backing material 19). The adhesive layer 15 may be provided over a substantial entirety of the bottom side 3B of sleeve 3 or more narrowly configured, e.g., only over the contact window 21. Note, that the improvements of the tamper evident package 1 of the present invention may still be accomplished by directly adhering the pressure sensitive adhesive 15 to the cavity 7 of the sleeve 3, without the use of a membrane 19 where the package of pellet 9 does not further require such use of a membrane 19. In such configuration, the adhesive layer 15 would directly bond the sleeve 3 and the blister assembly 12 together.

**[0030]** Further, as shown in Figs 2 and 3 below, the contact window 21 is optionally covered by some indicia of origin or manufacture 17, e.g., a UPC label. In this way, the indicia 17 would make it visually detectable if the seal had been broken and prevent the item from being purchased (i.e., could not be scanned at the register). Alternatively, indicia 17 could also contain additional features to indicate that it is made by the original manufacturer and was not a counterfeit.

**[0031]** Adhesive layer 15 may be formed of an elastomer and a tackifier. The elastomer may be a material such as but not limited to a natural rubber, vinyl ether, acrylic, butyl rubber, styrene block copolymer, silicone or nitrile. The tackifier may be a material such as but not limited to a terpene, aromatic resin, hydrogenated hydrocarbon resin or terpene-phenol resin. The adhesive layer 15 may be permanent or temporary.

**[0032]** As can be seen from Figs 4 and 5, user pressure on the access window 5 to dispense the pellet 9 through the blister cavity 7, as well as sliding/removing the blister assembly 12 would compromise the pressure-sensitive adhesive layer 15, providing indicia of tamper. As shown, the contact window 21 in the bottom side 3B of the sleeve 3 is shown, with the optional (open) perforated adhesive layer 15 that creates a cleaner appearance when accessed by user. In other words, the perforation of the adhesive layer 15 would generally outline the periphery of the contact window 21. Also, the optionally printed indicia or origin or manufacture 17 (e.g., UPC label), once broken, provides additional indications of prior tamper or access to the product/pellet 9.

**[0033]** Referring now to Fig. 6, there is shown a side-sectional view of the tamper evident blister package 1 of the present invention. Package 1 has a sleeve 3 with a top side 3A and a bottom side 3B, with a blister assembly 12 slidably provided therein. The assembly 12 further

includes a cavity 7 that houses a pellet 9 as desired. The sleeve 3 further provides an access window 5 that allows for user interaction via digital pressure or force to dispense the pellet 9 from the cavity 7.

**[0034]** Still referring to Fig. 6, contact window 21 is provided on the bottom side 3B of sleeve 3 directly over and vertically aligned with at least one of the blister cavities 7. The contact window 21 has an opening that is sufficiently wide to allow the pellet 9 to be dispensed from the cavity 7. As can be seen, the blister assembly 12 is slidably inserted into the sleeve 3 wherein the contact window 21 vertically aligns with any one the blister cavities 7. The cavity 7 may be enclosed by an optional membrane or backing material (not shown). Multiple contact windows 21 can be created in the sleeve 3 as desired.

**[0035]** As shown, a pressure-sensitive adhesive layer 15 is applied to the bottom side 3B of the sleeve 3 over the contact window 21. This adhesive layer 15 then bonds to both the sleeve 3 of the blister cavity 7 through the contact window 21, locking the sleeve 3 and the blister assembly 12 together. The adhesive layer 15 may be provided over a substantial entirety of the bottom side 3B of sleeve 3 or more narrowly configured, e.g., only over the contact window 21.

**[0036]** The use of the terms "a" and "an" and "the" and similar referents in the context of describing the invention (especially in the context of the following claims) is to be construed to cover both the singular and the plural, unless otherwise indicated herein or clearly contradicted by context. The terms "comprising," "having," "including," and "containing" are to be construed as open-ended terms (i.e., meaning "including, but not limited to,") unless otherwise noted. Recitation of ranges of values herein are merely intended to serve as a shorthand method of referring individually to each separate value falling within the range, unless otherwise indicated herein, and each separate value is incorporated into the specification as if it were individually recited herein. All methods described herein can be performed in any suitable order unless otherwise indicated herein or otherwise clearly contradicted by context. The use of any and all examples, or exemplary language (e.g., "such as") provided herein, is intended merely to better illuminate the invention and does not pose a limitation on the scope of the invention unless otherwise claimed. No language in the specification should be construed as indicating any non-claimed element as essential to the practice of the invention.

## REFERENCES CITED IN THE DESCRIPTION

Cited references

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in

compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

**Patent documents cited in the description**

- EP0162378A [0004]
- FR1527556A [0007]
- EP2336045A [0008]

Krav:

1. Blisterpakning (1) med manipulationsbevis, og omfattende:  
5 en blisterkonstruktion (12), som definerer mindst ét hulrum (7), det mindst ene hulrums (7) åbning er i det mindste delvist lukket af en membran (19);  
et hylster (3), som rummer blisterkonstruktionen (12), hylsteret (3) har en overside (3a) og en underside (3b), undersiden (3b) har et kontaktvindue (21), som er på linje med hulrummet (7); **kendetegnet ved at**  
10 et trykfølsomt klæbemiddel (15), som er påført på undersiden (3b) og dækker kontaktvinduet (21); og  
hvori det trykfølsomme klæbemiddel (15) yderligere er påført på membranen (19), som dækker hulrummet (7) gennem kontaktvinduet (21).
2. Pakning (1) ifølge krav 1, hvori det trykfølsomme klæbemiddel (15) forhindrer sideværts  
15 fjernelse af blisterkonstruktionen (12) fra hylsteret (3).
3. Pakning (1) ifølge krav 1, hvori det trykfølsomme klæbemiddel (15) er perforeret og indrammer hylsterets (3) kontaktvindue (21) langs periferien.
- 20 4. Pakning (1) ifølge krav 1, yderligere omfattende et oprindelses- eller fremstillingskendetegn (17), som er trykt over det trykfølsomme klæbemiddel (15) og kontaktvinduet (21).
5. Pakning (1) ifølge krav 1, hvori hulrummet (7) indbefatter en pellet (9), og hylsteret (3)  
25 yderligere omfatter et adgangsvindue (5), som er på linje med hulrummet (7) på hylsterets (3) overside (3a) til at tillade trykdispensering af pelleten (9) gennem kontaktvinduet (21).
6. Pakning (1) ifølge krav 5, hvori kontaktvinduet (21) er tilstrækkeligt dimensioneret til at  
30 tillade pelleten (9) at passere derigennem.
7. Fremgangsmåde til fremstilling af en blisterpakning (1) med manipulationsbevis, og omfattende:  
at tilvejebringe en blisterkonstruktion (12), som definerer mindst ét hulrum (7) til at  
35 rumme en pellet (9);  
at rumme blisterkonstruktionen (12) i et hylster (3), hylsteret (3) indbefatter en underside (3b), som definerer et kontaktvindue (21), som er lodret på linje med hulrummet (7);

at påføre et trykfølsomt klæbemiddel (15) over kontaktvinduet (21); og  
hvor det trykfølsomme klæbemiddel (15) , yderligere, gennem kontaktvinduet (21), er  
påført et område på blisterkonstruktionen (12), som definerer hulrummet (7).

- 5 8. Fremgangsmåde ifølge krav 7, hvori det trykfølsomme klæbemiddel (15) forhindrer  
sideværts fjernelse af blisterkonstruktionen (12) fra hylsteret (3).
9. Fremgangsmåde ifølge krav 7, yderligere omfattende handlingen med at perforere det  
trykfølsomme klæbemiddel (15), og at opridse periferien af hylsterets (3) kontaktvindue  
10 (21).
10. Fremgangsmåde ifølge krav 7, yderligere omfattende handlingen med at printe et  
kendetegn eller oprindelse eller fabrikat over det trykfølsomme klæbemiddel (15) og  
kontaktvinduet (21).

# DRAWINGS

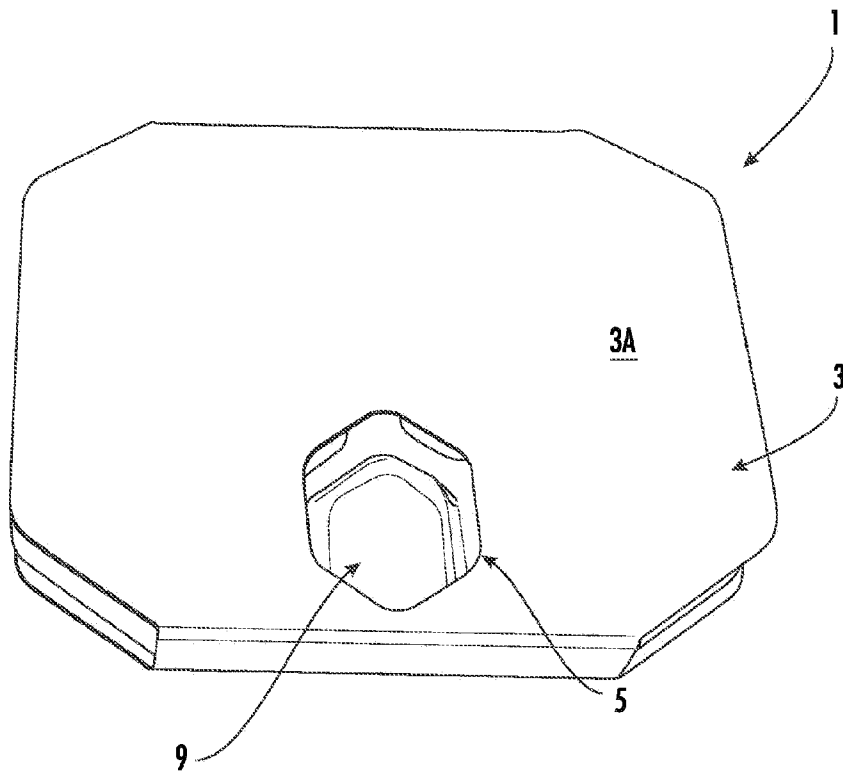


FIG. 1

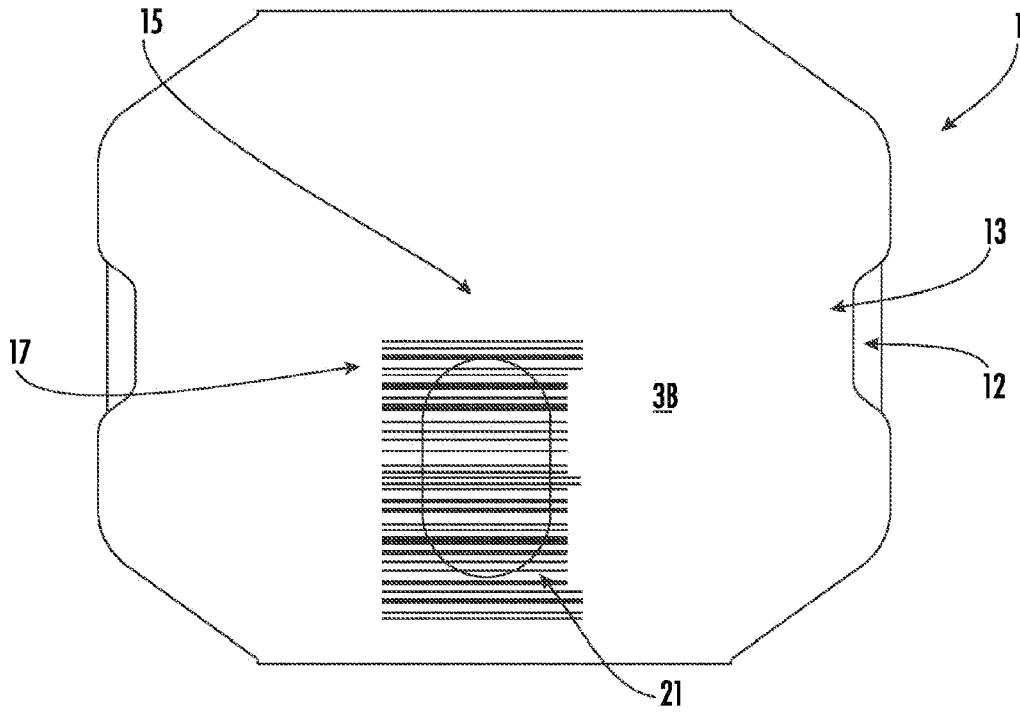


FIG. 2

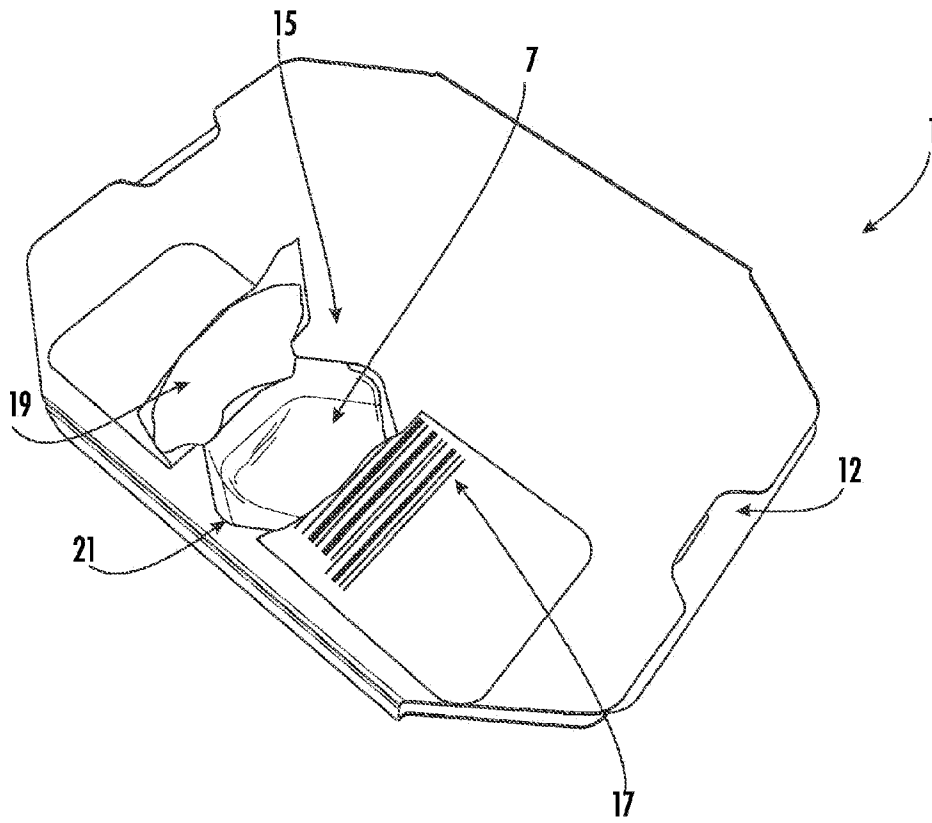


FIG. 3

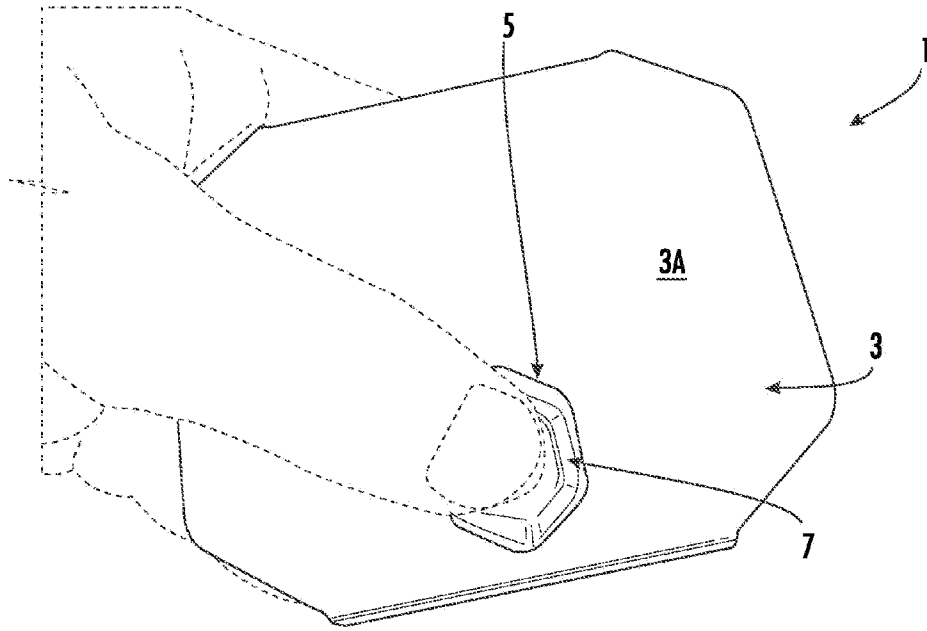
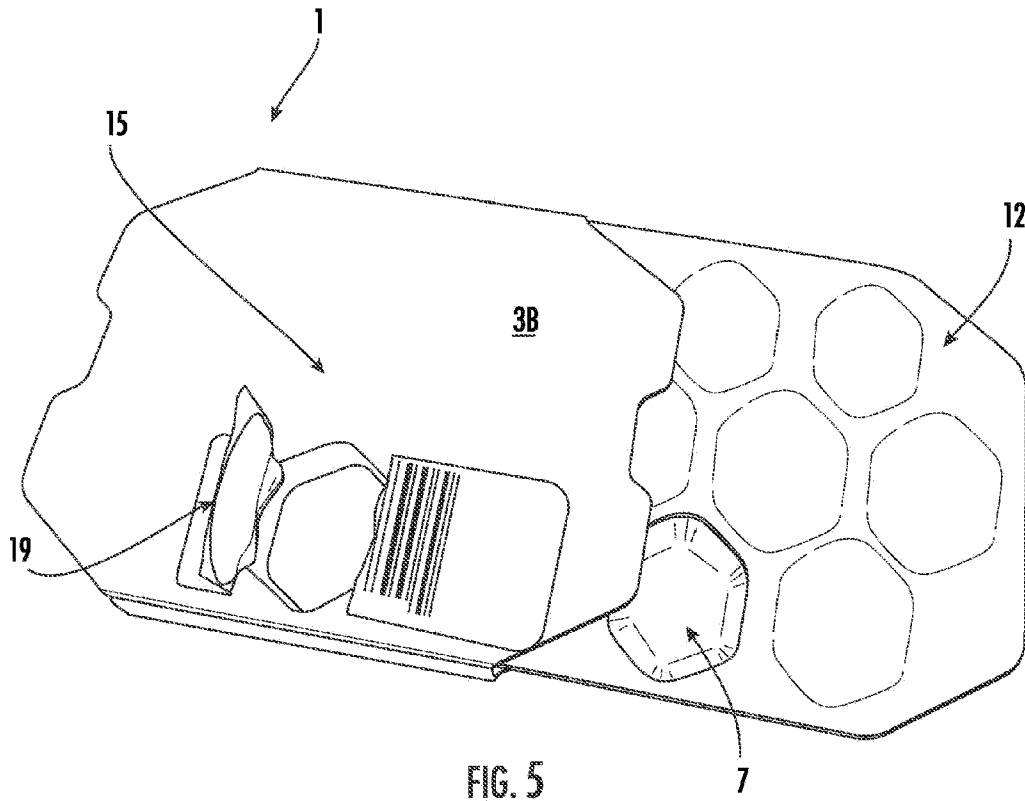


FIG. 4



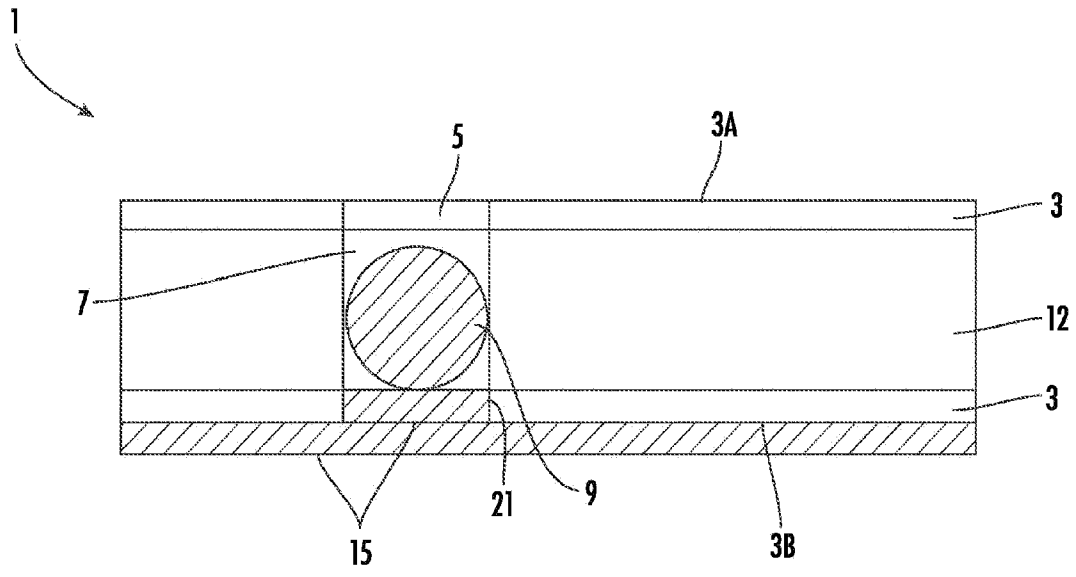


FIG. 6