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(54) **TAMPER EVIDENT PRODUCE CONTAINER**

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(57) **ABSTRACT**

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The present invention relates to a tamper evident produce container having two front corners. The produce container includes a receptacle, a lid and a pair of frangible tabs. The receptacle has a mouth circumscribed by a first flange. The lid is associated with the receptacle to close off the mouth. The lid has a second flange. Each frangible tab is joined to either one of the first or second flange at or in close proximity to one of the two front corners by an area or line of weakness. Each frangible tab includes a first locking formation which is adapted to interlock with a second locking formation provided on or in the other of the first or second flange when the lid is positioned on the receptacle to close off the mouth.

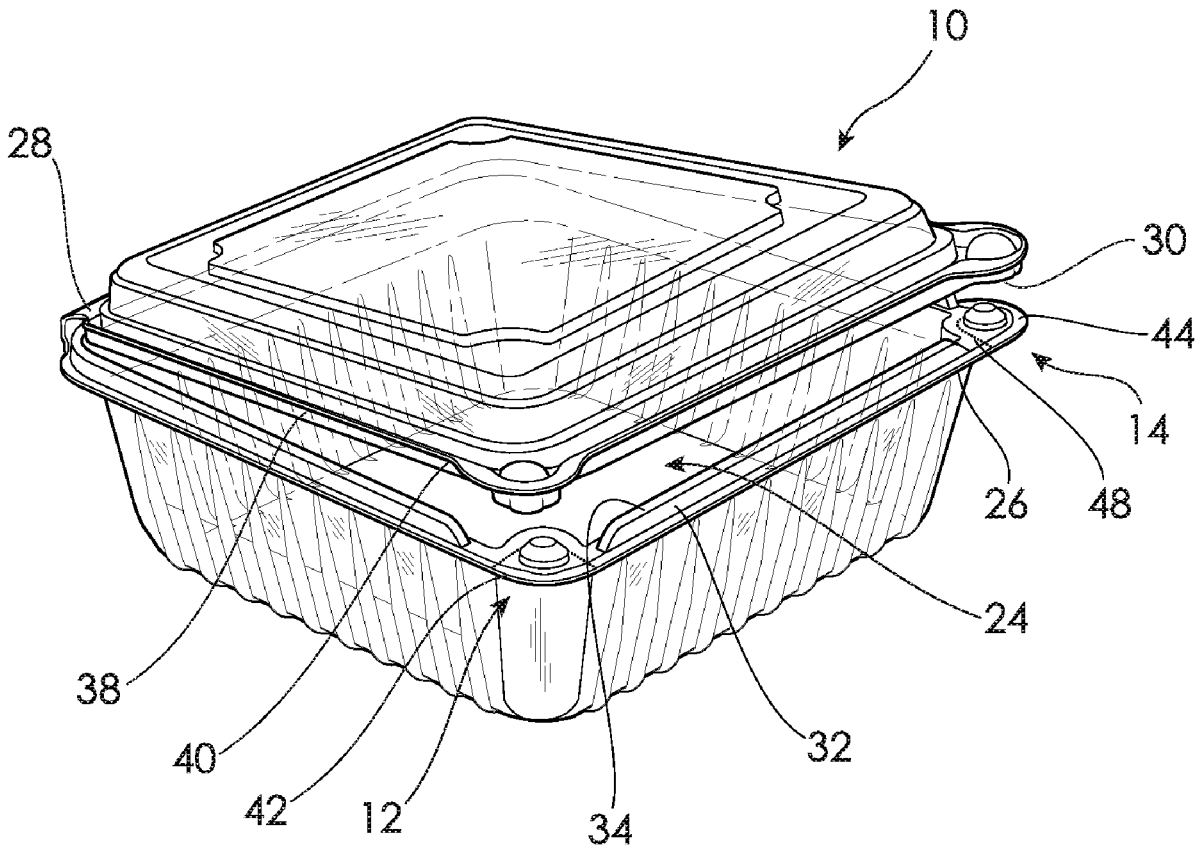
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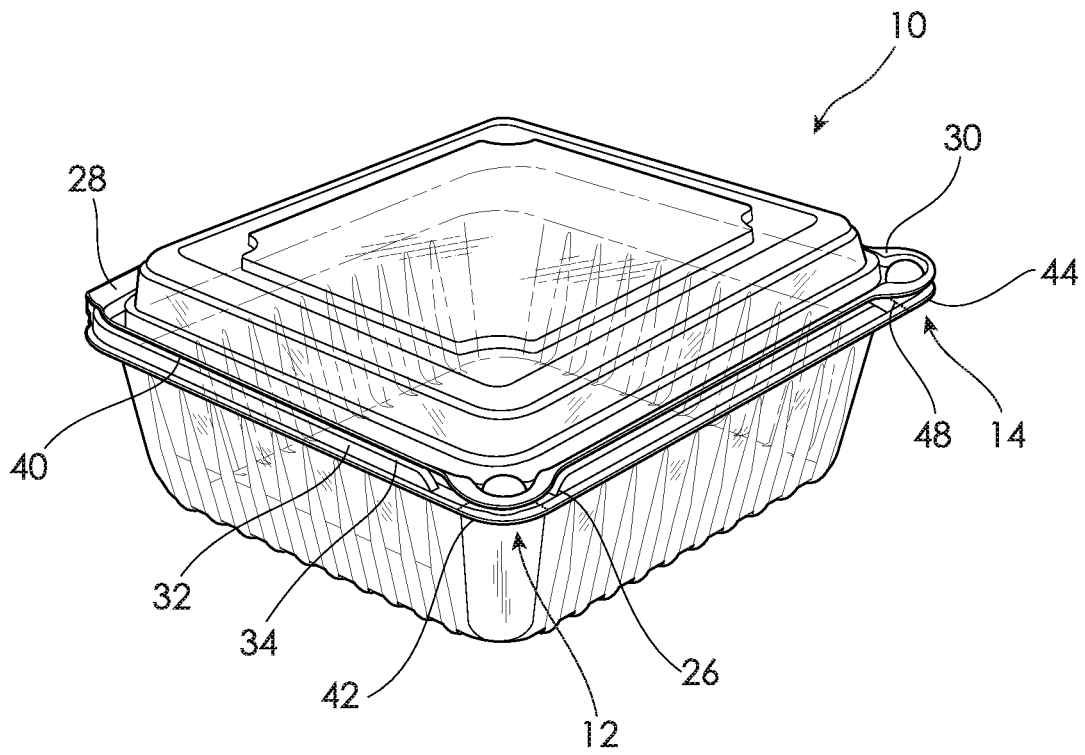


Fig. 1

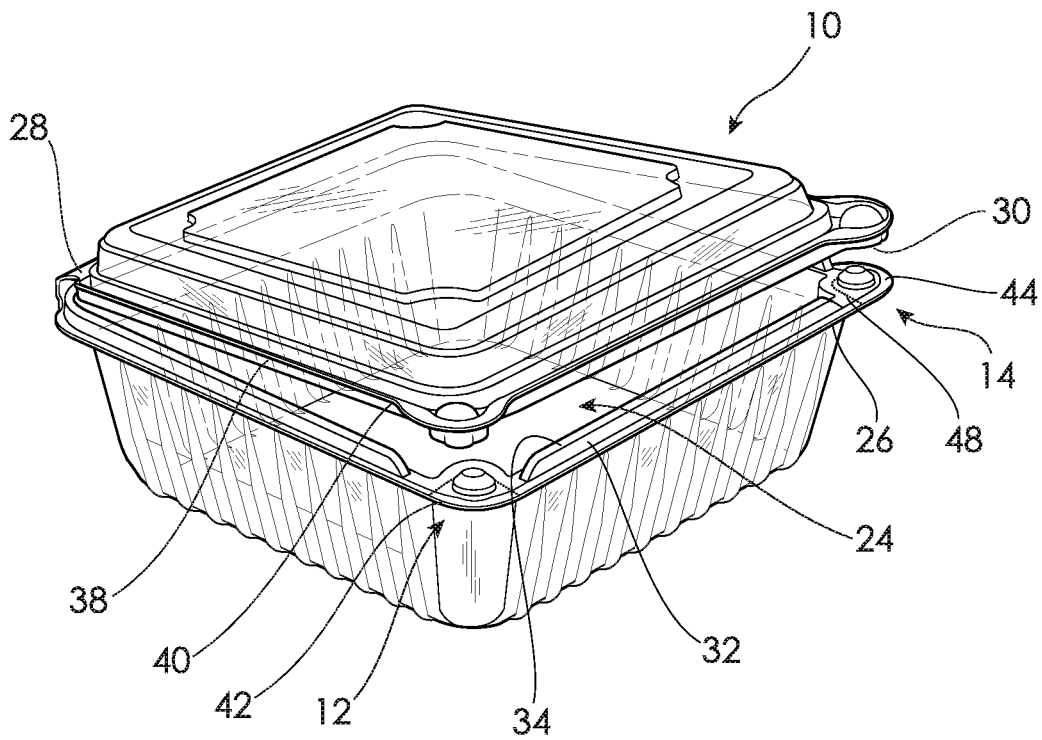


Fig. 2

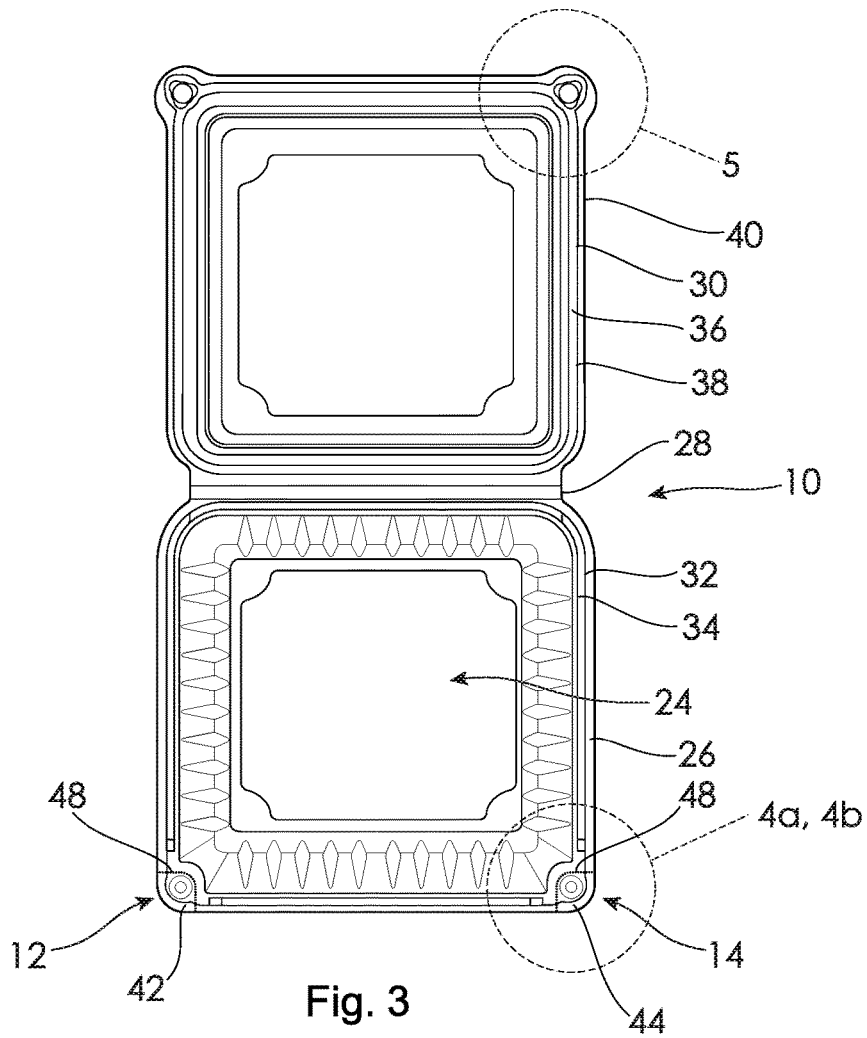


Fig. 3

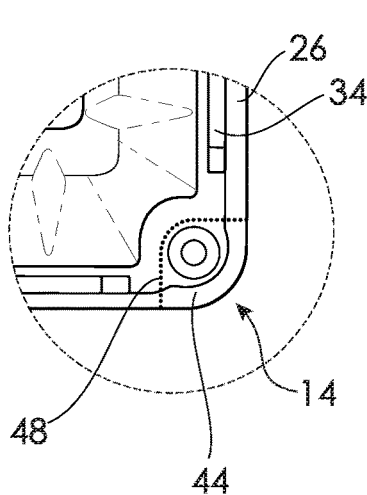


Fig. 4A

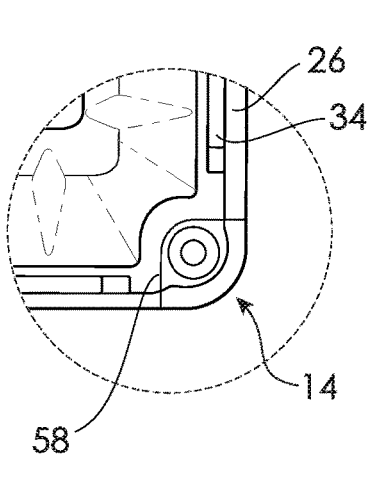


Fig. 4B

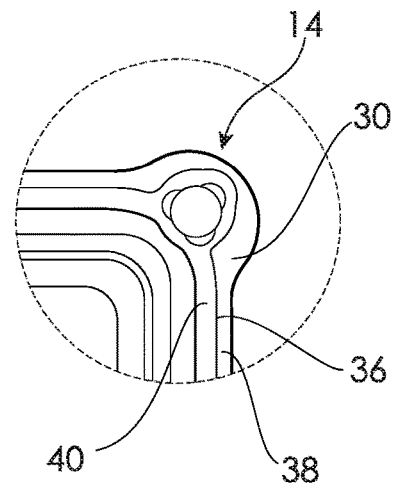


Fig. 5

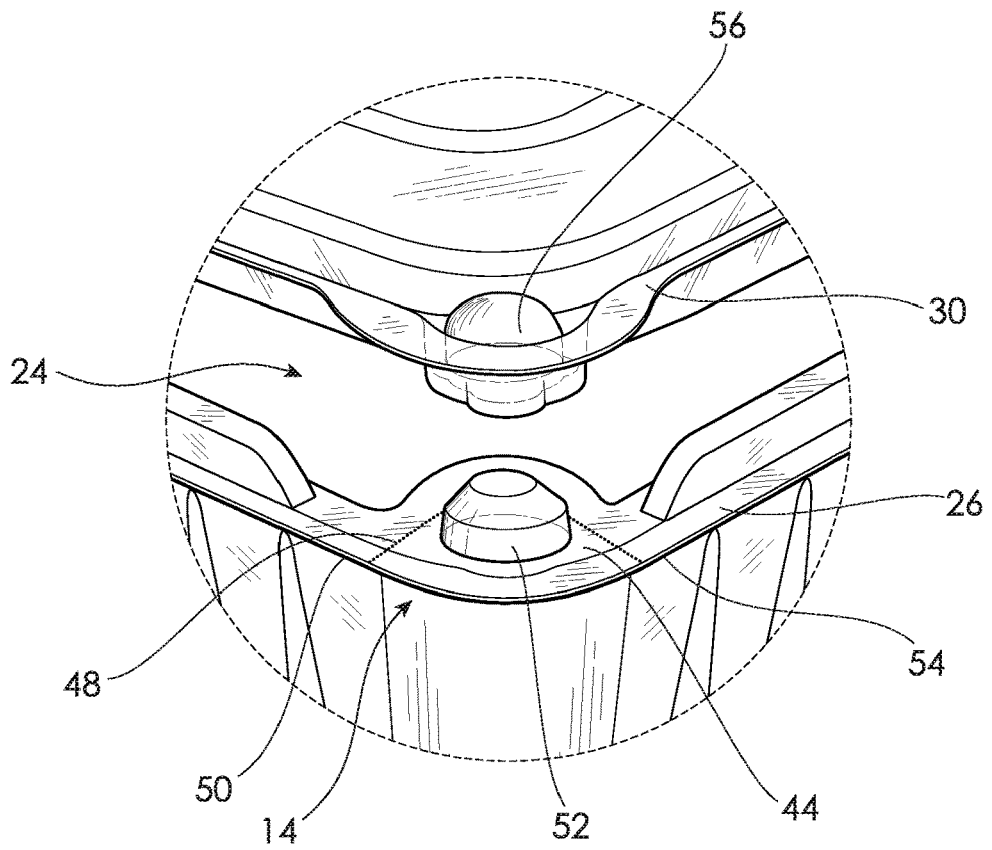


Fig. 6

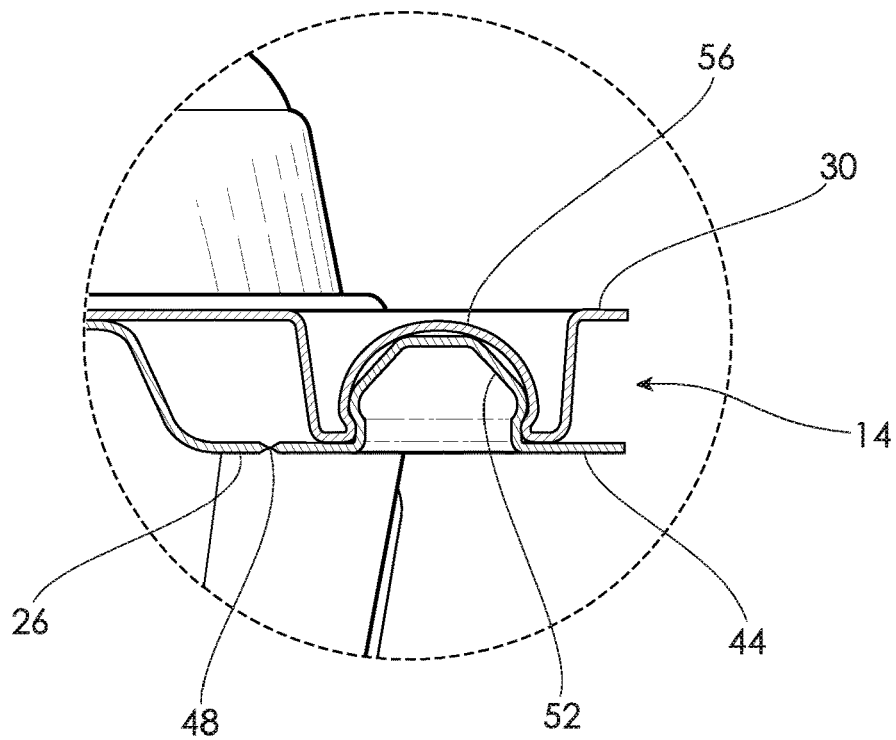


Fig. 7

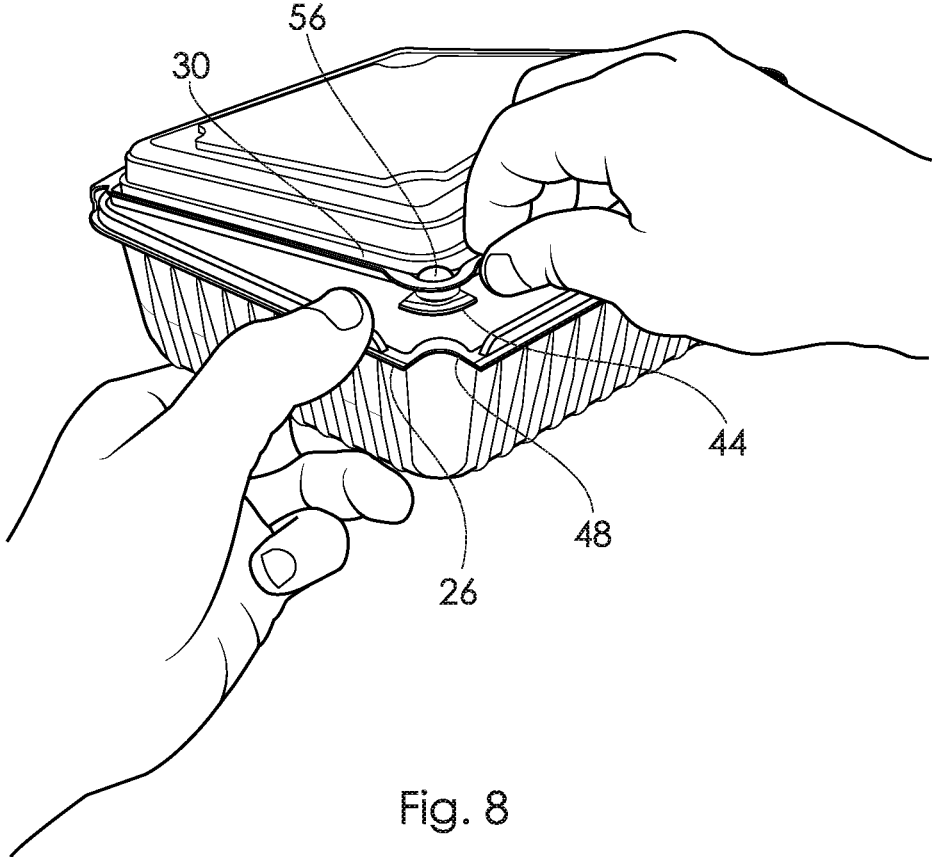


Fig. 8

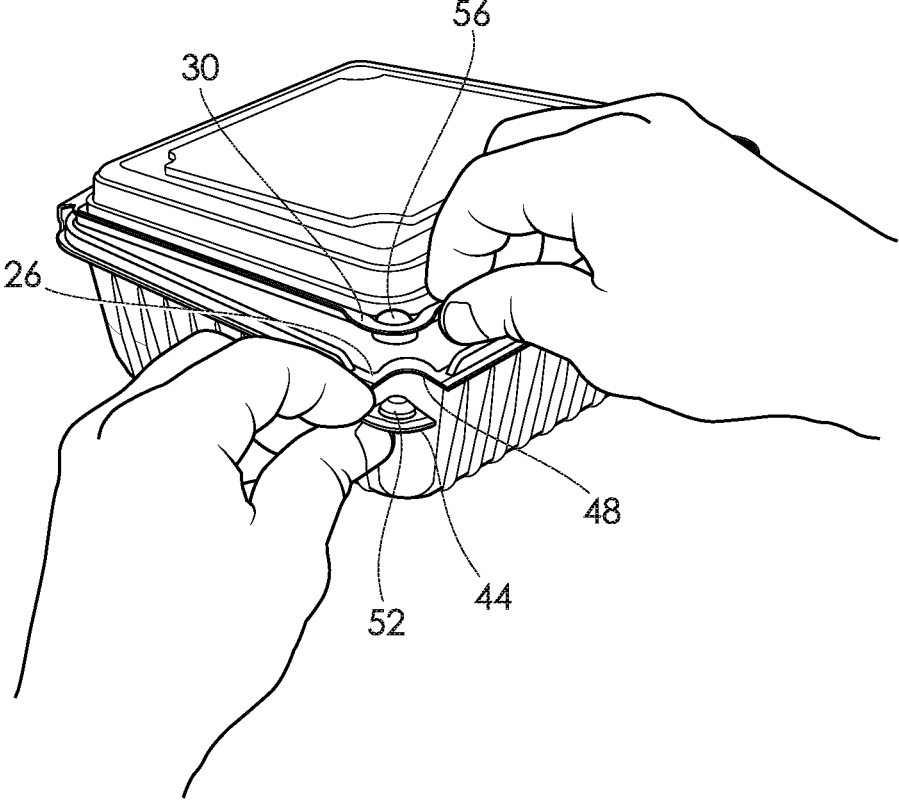


Fig. 9

TAMPER EVIDENT PRODUCE CONTAINER**CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims priority to and the benefit of Australian Patent Application No. 2019900262, filed Jan. 29, 2019, the contents of which are hereby incorporated by reference herein in their entirety.

BACKGROUND**Related Field**

[0002] The present invention broadly relates to packaging containers. More particularly, the present invention relates to a tamper evident produce container.

Related Art

[0003] Since there has been reported incidents of needles being deliberately planted in fresh produce such as strawberries contained in punnets with a vicious motive, it is generally recognised that there is a need in the packaging industry to provide tamper evident packaging so as to alert consumers to punnets which may have been tampered with while carrying contaminated produce.

[0004] It is an object of the present invention to provide a tamper evident produce container which may meet the above need, or which will at least provide a useful alternative.

BRIEF SUMMARY

[0005] According to the present invention, there is provided a tamper evident produce container having two front corners, the produce container including: a receptacle with a mouth circumscribed by a first flange; a lid associated with the receptacle to close off the mouth, the lid having a second flange; and a pair of frangible tabs, each frangible tab being joined to either one of the first or second flange at or in close proximity to one of the two front corners by an area or line of weakness, wherein each frangible tab includes a first locking formation which is adapted to interlock with a second locking formation provided on or in the other of the first or second flange when the lid is positioned on the receptacle to close off the mouth.

[0006] In certain embodiments, the area or line of weakness includes a perforated or scored line. As such, any attempt to forcibly disengage the lid from the receptacle causes the frangible tab to break away from either the first or second flange so as to indicate tampering.

[0007] In certain embodiments, each frangible tab is joined to the first flange. More optimally, the area or line of weakness is where the first flange joins the frangible tab. Advantageously, the area or line of weakness follows a path that begins at one edge of the flange, goes around the first locking formation and ends at another edge of the flange.

[0008] In certain embodiments, the first and second locking formations are configured to be snap-fit connectors. More optimally, the first locking formation is a male member which is adapted to mate and interlock with the second locking formation being a complementary female member so as to secure the lid to the receptacle when the lid is in a closed position. Most advantageously, the male member includes a substantially frustoconical protrusion.

[0009] In certain embodiments, the first flange includes an upwardly projecting rim which provides a first loading bearing surface.

[0010] In certain embodiments, the second flange includes a second loading bearing surface, and a vertical wall having one side substantially orthogonally and integrally joined to the second loading bearing surface and another side integrally joined to an outwardly extending fringe. Advantageously, the outwardly extending fringe is adapted to abut the first loading bearing surface when the lid is in a closed position. As such, the outwardly extending fringe is spaced from the first flange by the upwardly projecting rim.

BRIEF DESCRIPTION OF THE VARIOUS FIGURES

[0011] The invention may be better understood from the following non-limiting description of the exemplary illustrated embodiment, in which:

[0012] FIG. 1 is a perspective view of a produce container in accordance with various embodiments of the present invention being in a closed state;

[0013] FIG. 2 is a perspective view of the produce container of FIG. 1 in a slightly open state;

[0014] FIG. 3 is a plan view of the produce container of FIG. 1 in a fully open state;

[0015] FIG. 4A is a magnified plan view illustrating a corner of a flange of the receptacle of the produce container of FIG. 1 being joined to a frangible tab by a perforated line of weakness;

[0016] FIG. 4B is a magnified plan view illustrating a corner of a flange of the receptacle of the produce container of FIG. 1 being joined to a frangible tab by a scored line of weakness;

[0017] FIG. 5 is a magnified plan view illustrating a corner of a flange of the lid of the produce container of FIG. 1;

[0018] FIG. 6 is a perspective view of a corner of the produce container of FIG. 1 illustrating a pair of unengaged locking formations;

[0019] FIG. 7 is a perspective view of the corner of FIG. 6 with the locking formations in engagement with one another;

[0020] FIG. 8 is a perspective view of the produce container of FIG. 1 illustrating the frangible tab being broken away in one direction and attached to the flange of the lid; and

[0021] FIG. 9 is a perspective view of the produce container of FIG. 1 illustrating the frangible tab being broken away in another direction and held by an operator's fingers.

DETAILED DESCRIPTION OF VARIOUS EMBODIMENTS

[0022] Referring to FIGS. 1, 2 and 3, there is provided a tamper evident produce container 10 having two front corners 12 & 14. The produce container 10 has a receptacle 16, a lid 18 and a pair of frangible tabs 20 & 22. The receptacle 16 has a mouth 24 circumscribed by a (first) flange 26. The first flange 26 has an upwardly projecting rim 32 which provides a first loading bearing surface 34.

[0023] The lid 18 is associated with the receptacle 16 to close off the mouth 24 via a hinge 28 located at the rear of the container 10. The lid has a (second) flange 30. The second flange 30 has a second loading bearing surface (see FIG. 3), and a vertical wall 38. The vertical wall 38 has one

side substantially orthogonally and integrally joined to the second loading bearing surface 36 and another side integrally joined to an outwardly extending fringe 40. The outwardly extending fringe 40 is adapted to abut the first loading bearing surface 34 when the lid 18 is in a closed position. As such, the outwardly extending fringe 40 is spaced from the first flange 26 by the upwardly projecting rim 32.

[0024] As shown in FIGS. 1 to 3, the container 10 has a pair of frangible tabs 42 & 44. The tabs 42 & 44 are located in the two respective front corners 12 & 14 of the container 10. For exemplary purposes, only one corner 14 is described and shown in FIGS. 4A, 6 and 7. The frangible tab 44 is joined to the first flange 26 at or in close proximity to the front corner 14 by an area or line 48 of weakness. The area or line 48 of weakness is where the first flange 26 joins the frangible tab 44. As best shown in FIG. 6, the area or line 48 of weakness follows a path that begins at one edge 50 of the first flange 26, goes around a first locking formation 52 and ends at another edge 54 of the first flange 26.

[0025] As best shown in FIGS. 6 and 7, the frangible tab 44 has the first locking formation 52 which is adapted to interlock with a second locking formation 56 provided in the second flange 30 when the lid 18 is positioned on the receptacle 16 to close off the mouth 24. The first and second locking formations 52 & 56 are configured to be snap-fit connectors. The first locking formation 52 is a male member which is adapted to mate and interlock with the second locking formation 56 being a complementary female member so as to secure the lid 18 to the receptacle 16 when the lid 18 is in a closed position. In the present embodiment, the first locking formation 52 is a substantially frustoconical protrusion which is adapted to interlock with the second locking formation 56 which is in the shape of a domed recess, as best shown in FIG. 7.

[0026] Turning now to FIGS. 8 and 9, due to the provision and location of the line 48 of weakness, any attempt to forcibly disengage the lid 18 from the receptacle 16 would avoidably and inevitably cause the frangible tab 44 (and indeed 42) to break away from the first flange 26 so as to indicate tampering. It will be appreciated that the way by which the container 10 is handled or manipulated would result in the frangible tab 44 breaking away in different manners. It will be appreciated that it is most viable and common to open the container 10 using the thumb and index finger of both hands. Of course, different people may choose to have the container 10 in different ways. However, it is anticipated that in order to unlock the lid 18 from the receptacle 16 and gain access to the interior of the container 10, an operator must have one hand firmly gripping onto the second flange 30 of the lid 18 and pulling in one direction and the other hand firmly grasping onto a selected part of the first flange 26 (the first case scenario) or the frangible tab 44 (the second case scenario) and pulling in an opposite direction. Either way, since the first and second locking formations 52 & 56 are securely interlocked with one another, the opposing pulling forces would invariably result in breaking away of the frangible tab 44. In the first case scenario, since it is a selected part of the first flange 26 that is gripped onto as shown in FIG. 8, the pulling force exerted on the second flange 30 would cause the frangible tab 44, being attached to the second flange 30, to break away from the first flange 26 along the area or line 48 of weakness in an upward direction. Whereas in the second case scenario, it is the

actual frangible tab 44 that is grasped onto as shown in FIG. 9. As such, the pulling force exerted on the frangible tab 44 for the purpose of splitting the first and second locking formations 52 & 56 would cause the frangible tab 44, which is held by the operator's fingers, to break away from the first flange 26 in a downward direction, as shown in FIG. 9.

[0027] On the above bases, a broken, breached, missing, torn or damaged tab in whichever manner would serve the purpose of providing solid visible evidence to consumers that tampering to the container 10 may have occurred.

[0028] Now that an advantageous and exemplary embodiment of the present invention has been described in some detail, it will be apparent to a skilled person in the art that the tamper evident produce container of the present invention may offer at least the following advantages: it is easy to apply and operate; and it allows consumers to identify containers that have been tampered with.

[0029] Those skilled in the art will appreciate that the invention described herein is susceptible to variations and modifications other than those specifically described. For instance, with or with adaptations, the frangible tabs 42 and 44 may be provided in the lid 18 being joined to the second flange 30 instead of the first flange 26. Also, although the area or line 48 of weakness in the present embodiment is in the form of a perforated line, the weakness may also be a scored line 58 as shown in FIG. 4B or be created in some other methods. All such variations and modifications are to be considered within the scope and spirit of the present invention the nature of which is to be determined from the foregoing description.

1. A tamper evident produce container comprising:
 - two front corners;
 - a receptacle with a mouth circumscribed by a first flange;
 - a lid associated with the receptacle to close off the mouth, the lid having a second flange; and
 - a pair of frangible tabs, each frangible tab being joined to either one of the first or second flange at or in close proximity to one of the two front corners by an area or line of weakness,
 wherein each frangible tab includes a first locking formation which is adapted to interlock with a second locking formation provided on or in the other of the first or second flange when the lid is positioned on the receptacle to close off the mouth.
2. The tamper evident produce container of claim 1, wherein the area or line of weakness includes a perforated or scored line.
3. The tamper evident produce container of claim 1, wherein each frangible tab is joined to the first flange.
4. The tamper evident produce container of claim 2, wherein the area or line of weakness is where the first flange joins the frangible tab.
5. The tamper evident produce container of claim 2, wherein the area or line of weakness follows a path that begins at one edge of the flange, goes around the first locking formation and ends at another edge of the flange.
6. The tamper evident produce container of claim 1, wherein the first and second locking formations are configured to be snap-fit connectors.
7. The tamper evident produce container of claim 1, wherein the first locking formation is a male member which is adapted to mate and interlock with the second locking

formation being a complementary female member so as to secure the lid to the receptacle when the lid is in a closed position.

8. The tamper evident produce container of claim **7**, wherein the male member includes a substantially frusto-conical protrusion.

9. The tamper evident produce container of claim **1**, wherein the first flange includes an upwardly projecting rim which provides a first loading bearing surface.

10. The tamper evident produce container of claim **1**, wherein the second flange includes a second loading bearing surface, and a vertical wall having one side substantially orthogonally and integrally joined to the second loading bearing surface and another side integrally joined to an outwardly extending fringe.

11. The tamper evident produce container of claim **10**, wherein the outwardly extending fringe is adapted to abut the first loading bearing surface when the lid is in a closed position.

12. The tamper evident produce container of claim **10**, wherein the outwardly extending fringe is spaced from the first flange by the upwardly projecting rim.

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