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Tray with Lid

Abstract

A tray with lid has a bottom tray with a plurality of compartments each having a bottom surface and upwardly extending sidewalls that extend upwardly from the bottom surface to a perimeter opening. A top surface of the bottom tray joins the plurality of compartments together and extends to a perimeter edge that extends outwardly past the outermost upwardly extending sidewalls to form an outer ledge that surrounds the plurality of compartments. A top lid has a generally planar sheet body having a top surface and a bottom surface that extend to a perimeter edge adapted to fit over the ledge of the bottom tray. The top lid further includes a rigid plate in the form of a sheet body having an outer perimeter that is sized and shaped to fit over the bottom tray, wherein the sheet body includes cutouts that form recessed portions of the top lid. The rigid plate is molded within a resilient outer covering of the top lid, such that only the resilient outer covering extends over the recessed portions.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] This application for a utility patent claims the benefit of U.S. Provisional Application No. 63/553,993, filed Feb. 15, 2024.

BACKGROUND OF THE INVENTION
Field of the Invention
[0002] This invention relates generally to storage trays, and more particularly to a foodsafe tray having a sealable lid and removable fasteners.
Description of Related Art
[0003] Food trays with compartments are well known in the prior art, often manufactured for transportable meals and for buffet-style serving facilities (lunchrooms, food courts, cafeterias, etc.). These products do not typically include lids or covers, but closable lunchboxes sometimes include dividers to form compartments.
[0004] In most cases, containers that include sealable lids/covers require a degree of manual force to remove that may be beyond the abilities of those with certain disabilities, or the very young or elderly. However, covers that are easier to manipulate tend to form no seal, or a weak seal that cannot contain liquids or help maintain a desired temperature. Prior art rigid container trays often have edges and irregularities that create issues with safety, and also make the compartments more difficult to clean.
[0005] The prior art teaches food trays with lids. However, the prior art does not teach a food tray that is both sealable and suitable for use by most ages and abilities. The present invention fulfills these needs and provides further advantages as described in the following summary.
SUMMARY OF THE INVENTION
[0006] The present invention teaches certain benefits in construction and use which give rise to the objectives described below.
[0007] The present invention provides a tray with lid comprising a bottom tray and a top lid. The bottom tray includes a plurality of compartments each having a bottom surface and upwardly extending sidewalls that extend upwardly from the bottom surface to a perimeter opening. A top surface of the bottom tray joins the plurality of compartments together and extends to a perimeter edge that extends outwardly past the outermost upwardly extending sidewalls to form an outer ledge that surrounds the plurality of compartments. The top lid comprises a generally planar sheet body having a top surface and a bottom surface that extend to a perimeter edge adapted to fit over the ledge of the bottom tray. The top lid further includes a rigid plate in the form of a sheet body having an outer perimeter that is sized and shaped to fit over the bottom tray, wherein the sheet body includes cutouts that form recessed portions of the top lid. The rigid plate is molded within a resilient outer covering of the top lid, such that only the resilient outer covering extends over the recessed portions.
[0008] A primary objective of the present invention is to provide a tray with lid having advantages not taught by the prior art.
[0009] Another objective is to provide a tray with lid that includes a bottom tray and a top lid that are adapted to form a seal, while still being easy to separate
[0010] A further objective is to provide a tray with lid chamfered/rounded edges, and soft materials, for enhanced safety.
[0011] A further objective is to provide a tray with lid wherein the lid is completely removable from the tray, which assists with cleaning.

[0012] A further still objective is to provide a tray with lid wherein the tray can be accessed while the lid is still attached on one side.
[0013] Other features and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0014] The accompanying drawings illustrate the present invention.
[0015] FIG. **1** is an exploded perspective view of a tray with lid that includes a bottom tray and a top lid, according to one embodiment of the present invention;
[0016] FIG. **2** is a side elevational view of the tray with lid once it has been assembled;
[0017] FIG. **3** is a perspective view of a rigid plate of the top lid;
[0018] FIG. **4** is a sectional view of the tray with lid taken along line **4-4** in FIG. **2**;
[0019] FIG. **5** is a side elevational view thereof, showing a grip portion of a pair of downwardly extending tabs; and
[0020] FIG. **6** is a side elevational view thereof, showing the top lid in an open position.
DETAILED DESCRIPTION OF THE INVENTION
[0021] The above-described drawing figures illustrate the invention, a tray with lid for containing food, or for other uses such as organizing tools/accessories/crafts/etc.
[0022] FIG. **1** is an exploded perspective view of a tray with lid **10** according to one embodiment of the present invention. FIG. **2** is a side elevational view thereof. As shown in FIGS. **1-2**, the tray with lid **10** comprises a bottom tray **20** and a top lid **40**. In this embodiment, the bottom tray **20** comprises a plurality of compartments **24** each having a bottom surface **28** and upwardly extending sidewalls **26** that extend upwardly from the bottom surface **28** to a perimeter opening **30**. The perimeter openings **30** are connected to each other by a top surface **32** of the bottom tray **20**. In some embodiments, the perimeter openings **30** may be chamfered so that there is no hard edge. The top surface **32** joins the plurality of compartments **24** together and extends to a perimeter edge **34**, and, in this embodiment, the perimeter edge **34** extends outwardly past the outermost upwardly extending sidewalls **26** to form an outer ledge **36** that surrounds the plurality of compartments **24**. In this embodiment, the perimeter edge **34** is in a generally rectangular shape, but any suitable top plan shape may be formed, as long as it is compatible with the invention.
[0023] In this embodiment, the plurality of compartments **24** are in the form of four generally rectangular compartments of different sizes, for holding different types of food/other items. Furthermore, the compartments **24** may be rounded, which may help with ease of cleaning or scooping. However, any number of compartments may be implemented, in any suitable shape, which should be considered within the scope of the present invention. In some embodiments, at least some of the compartments **24** may also be joined together via a channel or similar structure formed in the upwardly extending sidewalls **26** or top surface **32** (not shown), rather than separated by the sidewalls **26** and top surface **32**.
[0024] The bottom tray **20** may be constructed of a rigid material like stainless steel, and the top lid **40** is constructed at least partially of a resilient material such as silicone, although obviously other materials may be used if desired by one skilled in the art. The tray with lid **10** is durable, washable, and foodsafe. The bottom tray **20** may be deburred so that there are no sharp edges. The silicone lid is particularly suitable for young children or those with motor disabilities. However, similar materials may be used.
[0025] The top lid **40** attaches to the bottom tray **20** at a plurality of attachment points **38**, so that the top lid **40** can be secured to close the bottom tray **20**, or removed to access the contents, or for

cleaning. The plurality of attachment points **38** of the present embodiment are positioned on the outermost sidewalls **26** of the bottom tray **20**. In this embodiment, the attachment points **38** are in the form of first and second pairs of protrusions **38** each having a securing endpiece **39**, the pairs being formed on opposite sides of the bottom tray **20** (best shown in FIG. **2**). As shown in the drawings, the attachment points **38** may each have a base that is wider than the rest of the attachment point, which may assist with welding/otherwise fixing to the tray **20**. In this embodiment, each pair is spaced a distance apart and positioned adjacent the ledge **36**, and further angles slightly downwardly, though in some embodiments may protrude at any suitable angle. In this embodiment, the securing endpieces **39** of the first pair of protrusions **38***a* are each in the form of a laterally extending tab **39***a*, and the securing endpieces **39** of the second pair of protrusions **38***b* are each in the form of a rounded head **39***b* (i.e., as in a pinhead or head of a screw), wherein the securing endpieces **39** engage with the top lid **40**, discussed in further detail below. While one example of the attachment points **38** is illustrated and described, any similar form of attachment point may be constructed, as deemed suitable by the manufacturer.

[0026] As illustrated, the top lid **40** comprises a generally planar sheet body having a top surface **44** and a bottom surface **46** that extend to a perimeter edge **47**. The sheet body **60** is complimentary to the top surface **32** of the bottom tray **20**, wherein the perimeter edge **47** of the top lid **40** is adapted to fit over the ledge **36** of the bottom tray **20**. In this embodiment, the top surface **44** of the top lid **40** includes a plurality of recessed portions **48** that contour and are shaped to match the shape of the perimeter openings **30** of the plurality of compartments **24**. However, in other embodiments, the top surface **44** may be generally smooth. As shown in FIGS. **1-2**, the perimeter edge **47** of the top lid **40** includes a first pair of downwardly extending tabs **50**, and a second pair of downwardly extending tabs **52** on the opposite side, wherein each pair **50** and **52** is positioned to align with the attachment points **38** of the bottom tray **20**. In this embodiment, the first pair of downwardly extending tabs **50** each include a laterally extending aperture **54** that is shorter than the laterally extending tabs **39***a* of the first pair of protrusions **38***a*, so that the laterally extending tabs **39***a* can pass through the laterally extending apertures **54** and secure the first pair of downwardly extending tabs **50** on the first pair of protrusions **38***a*. Similarly, the second pair of downwardly extending tabs **52** may each include an aperture **55** that is sized and adapted to receive the rounded head **39***b* of the second pair of protrusions **38***b*, best shown in FIG. **5** and discussed further below. As illustrated, in various embodiments, the apertures **54** and **55** may each include reinforcement material surrounding the aperture, which may help reduce the possibility of tearing or unwanted stretching.

[0027] FIG. **3** is a perspective view of a rigid plate **60** of the top lid **40** of the tray with lid **10**. As shown in FIG. **3**, in some embodiments, the top lid **40** includes the rigid plate **60** in the center of the top lid **40** which provides rigidity. The rigid plate **60** may be in the form of a sheet body having an outer perimeter **62** that is sized and adapted to fit over the bottom tray **20**. The sheet body **60** may include cutouts **64** that are shaped to align with the recessed portions **48** of the top lid **40**. The rigid plate **60** may be molded within a silicone outer covering of the top lid **40**. In some embodiments, the rigid plate **60** may be constructed of metal, but other rigid materials may also be used (e.g., rigid plastics, etc.).

[0028] FIG. **4** is a sectional view of the tray with lid taken along line **4-4** in FIG. **2**. As shown in FIG. **4**, the bottom surface **46** of the top lid **40** may include sealing portions **56** that align with the perimeter openings **30** of the plurality of compartments **24**, so that when the top lid **40** is installed, the plurality of compartments **24** are sealed. The silicone outer surface provides a soft, pleasant, easy to grip surface, while the rigid plate **60** provides weight and structure for enhancing the seal. For the purposes of this application, the term “seal” is defined to mean a seal that is capable of substantially containing most materials including granular materials, liquids, creams/gels, etc, but is not necessarily a perfect hermetic seal.

[0029] FIG. **5** is a side elevational view of the tray with lid **10**, showing a grip portion **58** of the second pair of downwardly extending tabs **52**. As shown in FIGS. **1-2** and **5**, the first and second

pairs of downwardly extending tabs **50** and **52** each further include the grip portion **58** beneath the respective apertures for a user to grip to secure or remove the tabs **50** and **52** onto the bottom tray **20**. As shown in FIG. **5**, the grip portion **58** of the second pair of tabs **52** is larger than the grip portion **58** of the first pair of tabs **50**, and further has a textured surface for gripping.

[0030] FIG. **6** is a side elevational view of the tray with lid **10**, showing the top lid **40** in an open position. As shown in FIG. **6**, in use, the top lid **40** may be fully covering the plurality of compartments **24**, or it may be attached on only one side, wherein the downwardly extending tabs **50** or **52** that are attached can be bent so that the top lid **40** is not covering the plurality of compartments **24** while remaining attached to the bottom tray **20**. Furthermore, the top lid **40** may be detached from the bottom tray **20** entirely. The flexible material of the top lid **40** may allow the apertures to stretch slightly, and further allows the tabs **50** or **52** to flex for gripping, bending, and pulling.

[0031] The title of the present application, and the claims presented, do not limit what may be claimed in the future, based upon and supported by the present application. Furthermore, any features shown in any of the drawings may be combined with any features from any other drawings to form an invention which may be claimed.

[0032] As used in this application, the words “a,” “an,” and “one” are defined to include one or more of the referenced items unless specifically stated otherwise. The terms “approximately” and “about” are defined to mean +/−10%, unless otherwise stated. Also, the terms “have,” “include,” “contain,” and similar terms are defined to mean “comprising” unless specifically stated otherwise. Furthermore, the terminology used in the specification provided above is hereby defined to include similar and/or equivalent terms, and/or alternative embodiments that would be considered obvious to one skilled in the art given the teachings of the present patent application. While the invention has been described with reference to at least one particular embodiment, it is to be clearly understood that the invention is not limited to these embodiments, but rather the scope of the invention is defined by claims made to the invention.

Claims

1. A tray with lid comprising: a bottom tray comprising a plurality of compartments each having a bottom surface and upwardly extending sidewalls that extend upwardly from the bottom surface to a perimeter opening; a top surface of the bottom tray that joins the plurality of compartments together and extends to a perimeter edge that extends outwardly past the outermost upwardly extending sidewalls to form an outer ledge that surrounds the plurality of compartments; a top lid comprising a generally planar sheet body having a top surface and a bottom surface that extend to a perimeter edge adapted to fit over the ledge of the bottom tray; wherein the top lid includes a rigid plate in the form of a sheet body having an outer perimeter that is sized and shaped to fit over the bottom tray, wherein the sheet body includes cutouts that form recessed portions of the top lid; and wherein the rigid plate is molded within a resilient outer covering of the top lid, such that only the resilient outer covering extends over the recessed portions.

2. The tray with lid of claim 1, wherein rigid plate is made of steel, and the resilient outer covering is made of silicone.

3. The tray with lid of claim 1, further comprising: first and second pairs of protrusions each having a securing endpiece and being formed on opposite one another on the outermost sidewalls of the bottom tray; and wherein the securing endpieces engage downwardly extending tabs that extend downwardly from the perimeter edge of the top lid.

4. A tray with lid comprising: a bottom tray comprising a plurality of compartments each having a bottom surface and upwardly extending sidewalls that extend upwardly from the bottom surface to a perimeter opening; a top surface of the bottom tray that joins the plurality of compartments together and extends to a perimeter edge that extends outwardly past the outermost upwardly

extending sidewalls to form an outer ledge that surrounds the plurality of compartments; a top lid comprising a generally planar sheet body having a top surface and a bottom surface that extend to a perimeter edge adapted to fit over the ledge of the bottom tray; first and second pairs of protrusions each having a securing endpiece and being formed on opposite one another on the outermost sidewalls of the bottom tray; and wherein the securing endpieces engage downwardly extending tabs that extend downwardly from the perimeter edge of the top lid.

5. The tray with lid of claim 4, wherein the bottom tray is constructed of a rigid material, and the top lid is at least partially constructed of a resilient material.

6. The tray with lid of claim 5, further comprising a rigid plate positioned within the resilient material of the top lid.

7. The tray with lid of claim 6, further comprising: a top lid comprising a generally planar sheet body having a top surface and a bottom surface that extend to a perimeter edge adapted to fit over the ledge of the bottom tray; wherein the top lid includes a rigid plate in the form of a sheet body having an outer perimeter that is sized and shaped to fit over the bottom tray, wherein the sheet body includes cutouts that form the recessed portions of the top lid; and wherein the rigid plate is molded within a resilient outer covering of the top lid, such that only the resilient outer covering extends over the recessed portions.

8. The tray with lid of claim 4, wherein the securing endpieces of the first pair of protrusions are each in the form of a laterally extending tab, and the securing endpieces of the second pair of protrusions are each in the form of a rounded head.

9. The tray with lid of claim 8, wherein the downwardly extending tabs are in the form of first and second pairs of downwardly extending tabs opposite one another, and the first pair of downwardly extending tabs each includes a laterally extending aperture that is shorter than the laterally extending tabs of the first pair of protrusions, so that the laterally extending tabs can pass through the laterally extending apertures and secure the first pair of downwardly extending tabs on the first pair of protrusions; and wherein the second pair of downwardly extending tabs each includes an aperture that is sized and adapted to receive the rounded head of the second pair of protrusions.