A reclosable lid including a lid portion defining an opening to dispense the contents of a container, and a closeable flap portion including a sealing member and a resilient member. The closeable flap portion pivotal between a first position where the resilient member is flexed and the sealing member is not engaged with the opening and a second position where the sealing member is engaged with the opening and the resilient member is unflexed. A slide lock may be disposed on the closeable flap portion to engage with the lid portion and secure the closeable flap portion in the second position.
RECLOSEABLE CONTAINER LID

BACKGROUND

[0001] 1. Technical Field
[0002] The invention relates generally to container lids, and more particularly to a self-closing, reclosable lid for use with a container.
[0003] 2. Relevant Art
[0004] Generally, most containers are made with a corresponding lid used to close and sometimes seal the container. Typically, container lids may include a spout or similar means adapted to permit the flow of the container's contents from within the container and through the lid.
[0005] However, many existing container lid designs typically require that the user use two hands to open the container lid. Typically, one hand is used to secure or hold on to the container and the other is used to "twist" or "pry" the container lid on or off and effectively provide access to the container's contents.

SUMMARY

[0006] A reclosable lid is provided including a lid portion defining an opening to dispense the contents of a container, and a closeable flap portion including a sealing member and a resilient member. The closeable flap portion is pivotable between a first position, where the resilient member is flexed and the sealing member is not engaged with the opening and a second position, where the sealing member is engaged with the opening and the resilient member is not flexed.
[0007] In one aspect, a slide lock may be disposed on the closeable flap portion to engage with the lid portion and secure the closeable flap portion in the second position.
[0008] In another aspect, a reclosable lid is provided including a lid portion defining an opening to dispense the contents of a container, and a closeable flap portion including a sealing member and a resilient member. The closeable flap portion is pivotable between a first position, where the resilient member is in a flexed state and the sealing member is away from the opening and a second position, where the sealing member is engaged with the opening and the resilient member is in an unf lexed state. A slide lock, including a tab, disposed on the closeable flap portion is also provided. The tab is configured to engage a corresponding slot on the lid portion when the closeable flap portion is in the second position.
[0009] In yet another aspect, a reclosable lid is provided including a lid portion defining an opening and including a spout and a handle positioned diametrically opposed substantially on a circumference of the lid portion, and a grippable section formed on a diameter of the lid portion between the spout and handle. The reclosable lid also includes a closeable flap portion including a front end, a mid-section and a rear end, where the front end is configured to extend over the spout, the mid-section over the grippable section and the rear end over at least a portion of the handle when the closeable flap portion is in a closed position. The closeable flap portion includes a sealing member, a resilient member, and a hinge structure. The rear end of the closeable flap portion is depressible to cause the sealing member to rotate about the hinge structure away from the opening and place the resilient member in a compressed state to move the closeable flap portion to an opened position. A slide lock including a tab is disposed on the mid section of the closeable flap portion, where the tab is configured to mate with a corresponding slot on the lid portion to maintain the closeable flap portion in the closed position.
[0009] This brief summary has been provided so that the nature of this disclosure may be understood quickly. A more complete understanding of the disclosure can be obtained by reference to the following detailed description of the various embodiments thereof in connection with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The foregoing features and other features of the present disclosure will now be described with reference to the drawings of an illustrated embodiment. In the drawings, the same components have the same reference numerals. The illustrated embodiment is intended to illustrate, but not to limit the disclosure. The drawings include the following Figures:
[0011] FIG. 1A is a perspective view of a reclosable container lid without a slide lock in accordance with an embodiment;
[0012] FIG. 1B is a perspective view of a reclosable container lid with a slide lock in accordance with an embodiment;
[0013] FIGS. 2A and 2B are top and bottom views, respectively of the lid portion of the reclosable container lid in accordance with an embodiment;
[0014] FIG. 3 is a cross sectional view of closeable flap portion in accordance with an embodiment;
[0015] FIGS. 4A and 4B are cross-sectional views illustrating the closeable flap portion engaged with the lid portion in an open and closed position in accordance with an embodiment;
[0016] FIG. 4C is a cross-sectional view illustrating the closeable flap portion without a slide lock engaged with the lid portion in a closed position in accordance with an embodiment;
[0017] FIG. 5 is an illustration of the engagement between a sealing member of the closeable flap portion and an opening defined on the lid portion in accordance with an embodiment.

DETAILED DESCRIPTION

[0018] FIGS. 1A and 1B are perspective views of a reclosable lid 100 and 100a, respectively, both adapted to be used with a container 102 in accordance with embodiments. The container 102 includes a container body 103 that defines a volume used to hold or contain a substance which may be made to flow from the container, for example a liquid, a powder and the like. The container body 103 may have a generally circular, oval or rectangular cross-section that terminates at a continuous upper edge or rim. The rim defines a circular open top portion of the container body 103. In some embodiments, the rim may have formed thereon container threads (not shown) for mounting and securing the container body 103 to a lid, for example, reclosable lid 100 or 100a.
[0020] As shown in FIG. 1A, in one embodiment, the reclosable lid 100 includes a lid portion 104, and a closeable flap portion 106. In an alternative embodiment, as shown in FIG. 1B, optionally, a slide lock 108 may be integrated into the closeable flap portion 106 to lockably secure the closeable flap portion 106 to the lid portion 104 and seal the container body 103. It should be understood that references to the components described with reference to either reclosable lid 100 or 100a in FIGS. 1A and 1B are generally the same for
each embodiment, with the exception that the slide lock 108 and associated components are described with reference to the embodiment of recloseable lid 10a in FIG. 1B.

[0021] Referring now to the embodiments shown in FIGS. 1A and 1B, the lid portion 104 of the recloseable lid 100 or 100a includes a generally cylindrical shaped body portion 110 having a spout 112 formed on a circumference of the lid portion 104. The spout 112 is formed diametrically opposed from a handle 114 also formed on a circumference of the lid portion 104. The lid portion 104 includes internal threads 116 (see FIG. 2B) that are positioned to allow the lid portion 104 to engage with the corresponding container threads (not shown) provided at the rim of the container body 103 and secure the lid portion 104 to the container body 103.

[0022] FIGS. 2A and 2B are top and bottom views, respectively of the lid portion 104 in accordance with an embodiment. FIG. 2A shows the top of the lid portion with the closeable flap portion 106 removed for clarity. As shown in FIG. 2A, the lid portion 104 includes an annular platform section 202 upon which various surface features and structures of the lid portion 104 may be formed or mounted. As described below, many of the various surface features and structures mattingly correspond to, or operationally interact with various surface features and structures that are part of the closeable flap portion 106.

[0023] In one embodiment, each of the surface features and structures are aligned along a diameter of the lid between the spout 112 and the handle 114. The alignment of the surface features and structures in this manner facilitates operation of the closeable flap portion 106 using only one hand, if desired.

[0024] As shown in FIG. 2A, the platform section 202 defines an opening or hole 204 that provides a causeway from the underside of lid portion 104 through the platform section 202. The opening 204 is positioned immediately adjacent the spout 112. The opening 204 allows the contents of container 102 to be poured out from container body 103 via the spout 112 when the lid portion 104 is coupled to the container body 103.

[0025] Immediately adjacent the opening 204, toward the handle 114 side of the opening, a raised section 206 is formed on platform section 202. The raised section 206 is generally formed as a loop of material that provides a hand gripable section 118 (see FIGS. 1A, 1B). The loop defines an open space 119 (see FIGS. 1A, 1B) that separates the gripable section 118 from the platform section 202 to provide a space for a user’s fingers to curl under the gripable section, which allows the user to grasp the reclosable lid. In the embodiment of FIG. 1B, when the closeable flap portion 106 is positioned on the raised support section 206, a user may grip the reclosable lid 100a, such that the user’s thumb may become aligned with the direction of travel of the slide lock 108 such that the user may more easily manipulate the slide lock 108 between a locked and an unlocked position.

[0026] The raised section 206 is positioned at a height from platform section 202 that places the raised section 206 slightly below the height of spout 112 and handle 114. In this way, when closeable flap portion 106 is positioned on the raised section 206 as described below, the closeable flap portion 106 operationally mates properly with the spout 112, the handle 114 and other structures described below.

[0027] As shown in FIG. 2A, beside providing a means to grasp the lid portion 104, the gripable section 118 may also provide a support surface for positioning a raised hinge post 210 that provides a point for the closeable flap portion 106 to pivot or rotate when the closeable flap portion 106 is being opened or closed. In the embodiment of FIG. 1B, a channel slot 208 may be positioned on the support surface for operational use with the slide lock 108 when the slide lock is used to place the closeable flap portion 106 in the locked position.

[0028] Referring again to recloseable lid 100 or 100a, a channel 212, having guide walls 213, is formed on a portion of the platform section 202 immediately forward of handle 114. The channel 212 is configured to receive and engage with a resilient member provided on the closeable flap portion 106, such as a spring mechanism or similarly resilient mechanism. The surface of the channel 212 including the guide walls 213 provides a reactive surface upon which the resilient member may be made to flex, bend or coil when an appropriate force is applied to the resilient member as described below.

[0029] Handle 114 defines an empty or hollowed section 214 that opens upward away from platform 202. The hollowed section 214 creates an empty space configured to receive a rear portion of the closeable flap portion 106 when the closeable flap portion 106 is made to rotate about hinge post 210 and open as described below. In one embodiment, the hollowed section 214 may include an abutment 216 used to impede or limit the travel of the closeable flap portion 106 within the hollowed section. The movement of the portion of the closeable flap portion 106 that enters the hollowed section is limited by the engagement of the rear end 314 of the closeable flap portion 106 and a surface of the abutment 216.

[0030] FIG. 3 is a cross-sectional view of closeable flap portion 106 in accordance with an embodiment, including the slide lock 108. It should be understood that the closeable flap portion 106 has the same structure as shown in FIG. 3, albeit without the slide lock 108 and associated components as shown in FIG. 1A.

[0031] The closeable flap portion 106 includes a top wall or top surface 302 that extends the length of the closeable flap portion 106 upon which are surface features and structures configured to engage with the surface features and structures disposed on the lid portion 104 as described above.

[0032] In one embodiment, the top surface 302 includes a front end 304 that is sized and configured to fit over spout 112 (FIG. 2A). In operation, the front end 304 sealingly attaches to the spout 112 when the reclosable flap portion 106 is in a closed position.

[0033] The top surface 302 also includes a rear end 314 that includes a raised or upwardly curved surface feature 316. The raised surface feature 316 provides a resistive surface upon which a user’s thumb or finger, for example, may be placed when the user is gripping handle 114. As described below, the resistive surface provides a surface upon which the user’s thumb may catch or grasp to allow the user to depress the curved surface feature 316 on rear end 314 to force the rear end 314 into the hollowed section 214 of handle 114 allowing the front end 304 of the flap portion to pivot to the open position.

[0034] Inward of the front end 304, the closeable flap portion 106 includes a sealing member 306. The sealing member 306 that extends an appropriate length from the top surface 302 to come to rest over the opening 204 of lid portion 104 (FIG. 2A) when the closeable flap portion 106 is in the closed position. The sealing member 306 is shaped and sized to fit over opening 204 and configured to positively seal the opening 204 when the closeable flap portion 106 is in the closed position. Although shown generally having a cylindrical
shape, the sealing member 306 may have any shape that fits over the opening 204 and provides the appropriate sealing force when the closeable flap portion 106 is in the closed position. [0035] Adjacent the sealing member, the closeable flap portion 106 may include a lock groove 308 that is integrally cut, machined or formed into the top surface 302. The slide lock 108 may be snap-fit into the open channel 308 and allowed to move or slide within the lock groove 308. The lock groove 308 includes an open channel 310 configured to engage with a stem 309 of the slide lock 108 that terminates with an outwardly projecting tab 312 that generally points along the travel path of the slide lock 108. The lock groove 308 and corresponding open channel 310 may have a variety of cross sectional shapes, including but not limited to rectangular, square, and circular. [0036] In one embodiment, the slide lock 108 is configured to engage with the lock groove 308 such that the stem 309 slides within the open channel 310 between a first or locked position and a second or unlocked position. [0037] Movement of the slide lock 308 into the locked position is effectuated by moving the slide lock in a first direction that causes tab 312 to slide into and engage with the corresponding slot channel 208 (FIG. 2A and FIG. 4) of lid portion 104. The slot channel 208 is configured to capture the tab 312 so that the closeable flap portion 106 is kept from being allowed to open and prohibits the contents of the container 102 from being dispensed. Conversely, the slide lock 108 may be moved in a second direction that removes the tab 312 from the slot allowing the closeable flap portion 106 to be opened if desired. [0038] Referring again to FIG. 3, a resilient member 318 is provided on the closeable flap portion 106 to provide an automatic lid biasing means formed of an appropriate elastomeric material, such as silicone. The resilient member 318 allows the lid to be self closing, having a constant bias towards returning to its uncompressed shape once the resilient member becomes compressed, flexed or folded. In one embodiment, the resilient member 318 extends inwardly from a positioning member 320 on the top surface 302 and into the channel 212 of lid portion 104. The resilient member 318 may be formed as a flat loop structure, a flat strip of material or other suitable shape that provides the requisite biasing means. Alternatively, the resilient member may take the shape of any well known biasing structures, for example, coiled springs and the like. In addition, the resilient member 318 may be made of other than silicone, such as metal and the like. [0039] As described below, the resilient member 318 extends into lid portion 104 such that the resilient member 318 is aligned with and made to engage with the surface of the channel 212 between guide walls 213. In operation, a properly placed downward force applied to the closeable flap portion 106 is reacted with a counter-force supplied by channel 212 to the resilient member 318 to cause the resilient member to compress, flex, bend or coil. The engagement between the resilient member and the channel creates a bias in the closeable flap portion 106 that generally returns the closeable flap portion 106 to the closed position if the downward force is not adequately maintained. [0040] FIGS. 4A and 4B are cross-sectional views illustrating the closeable flap portion 106 of recloseable lid 100a operationally engaged with the lid portion 104 in closed and open positions, respectively, and showing the slide lock 108 in the locked and unlocked positions in accordance with an embodiment. FIG. 4C is a cross-sectional view illustrating the closeable flap portion 106 of recloseable lid 100c operationally engaged with the lid portion 104 in a closed position without the slide lock 108, in accordance with an embodiment. The open position of recloseable lid 100c is as shown in FIG. 4B, albeit without the slide lock 108 and its associated components. [0041] In FIGS. 4A and 4C, the recloseable lids 100a and 100c, respectively, are shown in a first or closed position. In one embodiment, the lid portion 104 includes internal threads 116 used to secure the lid portion 104 onto corresponding threads disposed on container body 103 (FIG. 1A). It should be noted that other well known methods of securing lid portion 104 to the container body 103 may be implemented, such as for example, force fitting the lid portion 104 onto the rim of the container body 103. [0042] When in the closed position, the closeable flap portion 106 is engaged with the lid portion 104 to be able to positively seal or close the container body 103. [0043] In operation, as shown in FIGS. 4A and 4C, in the first or closed position, the front end 304 of the closeable flap portion 106 is sealingly disposed over the spout 112. The sealing member 306 is disposed and seated over the opening 204 to sealingly mate with the opening 204 and ensure that the contents of container 102 may not pass through the recloseable lid. [0044] One embodiment of the engagement between the opening 204 and the sealing member 306 is shown in FIG. 5. In this embodiment, sealing member 306 includes a flexible and resilient end portion 502a, formed or coupled to a positioning member 504a. The end portion 502a is sized and shaped larger than the diameter of the opening 204 and the positioning member 504a. The positioning member 504a has a length that causes a portion of the positioning member 504a to enter opening 204a when the closeable flap portion 106 is in the closed position. Accordingly, since the positioning member 504a may extend into the opening 204a, when the sealing member 306 is engaged with the opening 204a, the positioning member 504a forces the resilient end portion 502a into the opening 204a. The oversized, resilient end portion 502a is made to engage with the internal wall 506 of the opening 204a in a “force fit” manner which creates a seal between the end portion 502a and the opening 204. [0045] Referring again to FIG. 4A, while in the closed position, resilient member 318 is in a substantially non-flexed or non-compressed position and thus, there is no inherent bias setup in the closeable flap portion 106. [0046] Referring to recloseable lid 100a, when closeable flap portion 106a is closed, slide lock 108a may be deployed to “lock” the closeable flap portion 106a and keep the closeable flap portion from opening. Generally, a user may grasp the grippable section 118, such that with the user’s thumb is positioned on the exterior portion of the slide lock 108. Advantageously, the user can manipulate the slide lock 108a with a single hand. [0047] In one embodiment, the stem 309 of slide lock 108 is configured to slide within the open channel 310 and move along the lock groove 308 between a first or locked position and a second or unlocked position. [0048] As shown in FIG. 4A, slide lock 108a is moveable along a travel path 404a (arrow 404a), which is generally along the diameter of lid portion 104a between the spout 112a and the handle 114a. The tab 312a of slide lock 108a points outwardly along the travel path 404a, such that when the slide lock 108a is
moved in a first direction, for example, towards spout 112, the tab 312 slides into and engages with slot 406 (FIG. 4B) formed on slot channel 208. The slot 406 captures the tab 312 so that the front end 304 and the sealing member 306 of closeable flap portion 106 are maintained in their closed and sealed relationships with the spout 112 and the opening 204, respectively. In addition, when slide lock 108 is in the locked position, the rear end 314 of the closeable flap portion 106 may not be depressed to open the front end 304.

[0049] Referring again to FIGS. 4A and 4C, to cause the closeable flap portion 106 to open, the closeable flap portion may be made to rotate about a pivot point, which causes the front end 304 to rise up and open. A hinge structure 402 may be positioned on the top surface 302 to engage with hinge post 210, to facilitate the rotation.

[0050] In operation, to cause the locked closeable flap portion 106 of reclosable lid 100 to open as shown in FIG. 4B, the user causes slide lock 108 to be moved in lock groove 308 in a second direction along path 404 that removes the tab 312 from the slot 406.

[0051] With reference to FIG. 4B, with the slide lock 108 in the unlocked position as with closeable flap portion 100b or if the slide lock 108 is not used as with closeable flap portion 100, in either embodiment, the user may grasp handle 114 such that the user's thumb may contact the upwardly curved surface feature 316 on the rear end 314 of closeable flap portion 106. The user may push down or depress (arrow 410) the curved surface feature 316 in a manner that is similar to or resembles depressing or pushing a button. When the rear end 314 is pushed downward, the closeable flap portion 106 rotates about hinge structure 402. The resilient member 318 is forced into a compressive contact with channel 212 causing the resilient member to bend or flex. As the rear end 314 is pushed downward, the rear end 314 is forced into the space created by the hollowed section 214 of handle 114. The rear end 314 of closeable flap portion 106 may be pushed downward until it contacts abutment 216. When contact is made, the front end 304 is opened to its fullest extent. The opening of front end 304 of closeable flap portion 106 removes the seal between front end 304 and spout 112 and removes the sealing member 306 from engagement with the opening 204.

[0052] As long as the rear end 314 of closeable flap portion 106 remains pushed downward, the front end 304 remains open. Therefore, to hold the closeable flap portion 106 in the open position, the downward force on the rear end 314 is maintained to overcome the biasing force generated by the flexed resilient member 318. It should be understood that the closeable flap portion 106 automatically returns to the closed position in the absence of an appropriate counter-force to the biasing force.

[0053] Once the user removes the counter-force from rear end 314, the resilient member 318 may unfold to force the closeable flap portion 106 to counter-rotate (arrow 412) about hinge structure 402 back to the closed position.

[0054] Although the present disclosure has been described with reference to specific embodiments, these embodiments are illustrative only and not limiting. Many other applications and embodiments of the present disclosure will be apparent in light of this disclosure and the following claims.

What is claimed is:

1. A reclosable lid comprising:
   a lid portion defining an opening to dispense the contents of a container; and a closeable flap portion including a sealing member and a resilient member, the closeable flap portion pivotable between a first position where the resilient member is flexed and the sealing member is not engaged with the opening and a second position where the sealing member is engaged with the opening and the resilient member is not flexed.

2. The reclosable lid of claim 1, wherein the lid portion further comprises a spout and a handle, wherein the handle and the spout are positioned diametrically opposed substantially on a circumference of the lid portion.

3. The reclosable lid of claim 1, further comprising a slide lock disposed on the closeable flap portion to engage with the lid portion and secure the closeable flap portion in the second position.

4. The reclosable lid of claim 3, wherein the slide lock comprises a tab, wherein the tab is configured to engage a corresponding slot on the lid portion when the closeable flap portion is in the second position.

5. The reclosable lid of claim 1, wherein the closeable flap portion further comprises a front end that forms a seal over a spout formed on the lid portion when in the second position.

6. The reclosable lid of claim 1, wherein the closeable flap portion comprises a depressible rear end configured to be pushed to cause the closeable flap portion to move from the second position to the first position.

7. The reclosable lid of claim 1, wherein the closeable flap portion comprises a depressible rear end configured to be pushed to cause the resilient member to flex.

8. The reclosable lid of claim 1, wherein the resilient member comprises a silicone spring.

9. The reclosable lid of claim 1, wherein the lid portion further comprises a grippable section forming a handle.

10. The reclosable lid of claim 1, wherein the lid portion comprises threads for mating with corresponding threads on a container to secure the lid portion to the container.

11. A reclosable lid comprising:
   a lid portion defining an opening to dispense the contents of a container;
   a closeable flap portion including a sealing member and a resilient member, the closeable flap portion pivotable between a first position where the resilient member is in a flexed state and the sealing member is away from the opening and a second position where the sealing member is engaged with the opening and the resilient member is in an unflexed state; and
   a slide lock including a tab disposed on the closeable flap portion, the tab configured to engage a corresponding slot on the lid portion when the closeable flap portion is in the second position.

12. The reclosable lid of claim 11, wherein the lid portion further comprises a spout and a handle, wherein the handle and the spout are positioned diametrically opposed substantially on a circumference of the lid portion.

13. The reclosable lid of claim 11, wherein the lid portion further comprises a grippable section forming a handle.

14. The reclosable lid of claim 11, wherein the closeable flap portion further comprises a front end that forms a seal over a spout formed on the lid portion when in the second position.

15. The reclosable lid of claim 11, wherein the closeable flap portion comprises a depressible rear end configured to be pushed to cause the closeable flap portion to move from the second position to the first position.
16. The reclosable lid of claim 11, wherein the closeable flap portion comprises a depressible rear end configured to be pushed to cause the resilient member to flex.

17. The reclosable lid of claim 11, wherein the resilient member comprises a silicone spring.

18. The reclosable lid of claim 11, wherein the lid portion comprises threads for mating with corresponding threads on a container to secure the lid portion to the container.

19. A reclosable lid comprising:
   a lid portion defining an opening and including a spout and a handle positioned diametrically opposed substantially on a circumference of the lid portion, and a grippable section formed on a diameter of the lid portion between the spout and handle;
   a closeable flap portion including a front end, a mid-section and a rear end, the front end configured to extend over the spout, the mid-section over the grippable section and the rear end over at least a portion of the handle when the closeable flap portion is in a closed position, the closeable flap portion including a sealing member, a resilient member, and a hinge structure, the rear end of the closeable flap portion depressible to cause the sealing member to rotate about the hinge structure away from the opening and place the resilient member in a compressed state to move the closeable flap portion from the closed position to an opened position; and
   a slide lock including a tab disposed on the mid section of the closeable flap portion, the tab configured to mate with a corresponding slot on the lid portion to maintain the closeable flap portion in the closed position.

20. The reclosable lid of claim 19, wherein the resilient member is configured to return to an unflexed state to cause the sealing member to pivot about the hinge structure to engage and seal the opening and to cause the front end to form a seal over the spout.

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