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(54) **CONTAINER AND CAP FOR DISPENSING WIPES**

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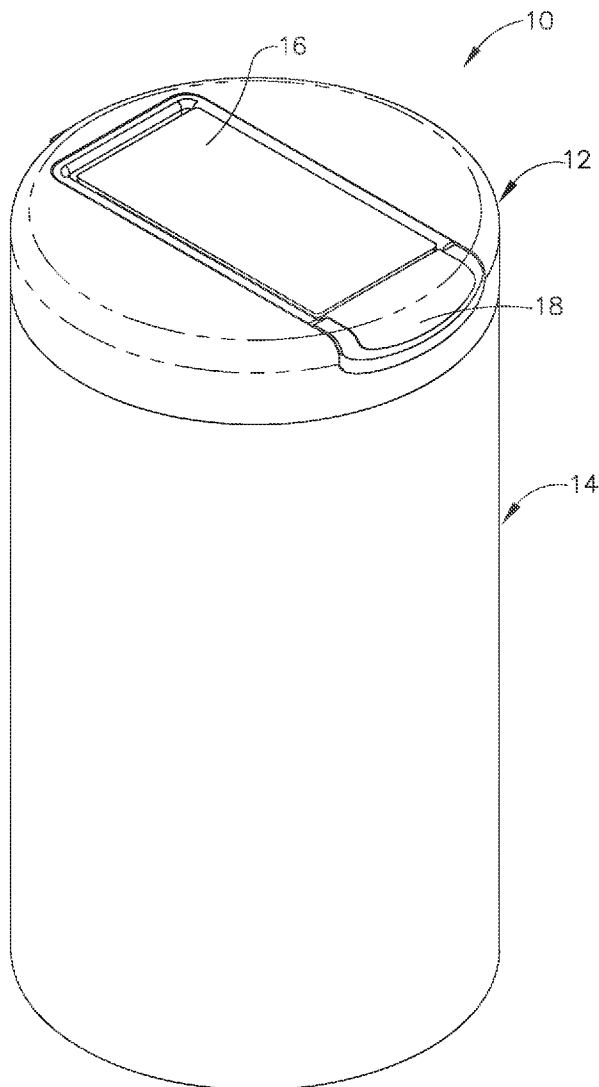
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(57) **ABSTRACT**

A container for wipes, and a cap for the container, having a pop-up style dispensing means positioned beneath a reclosable lid. The container may be as upright cylindrical container for perforated wipes or a rigid tub for interfolded wipes. The dispensing means comprises a raised member made of flexible, rubber-like material, having at least one opening through which wipes are removed when the lid is open. When the lid is closed it compresses the raised member. When the lid is released from its closed position the raised member pushes the lid open. The dispensing means may have a hard plastic backing member underneath a portion of the rubber-like material adjacent the opening through which wipes are removed.



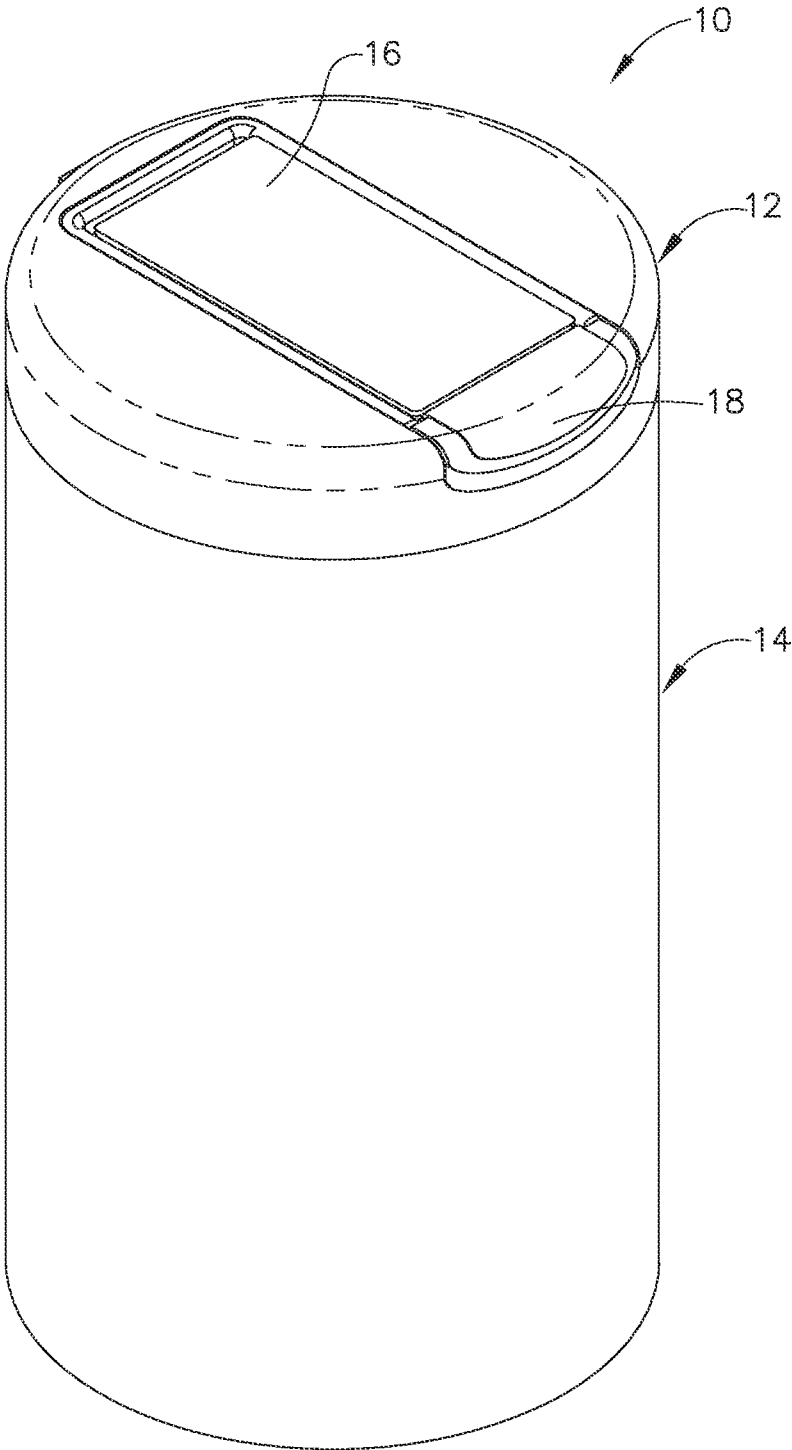


FIG. 1

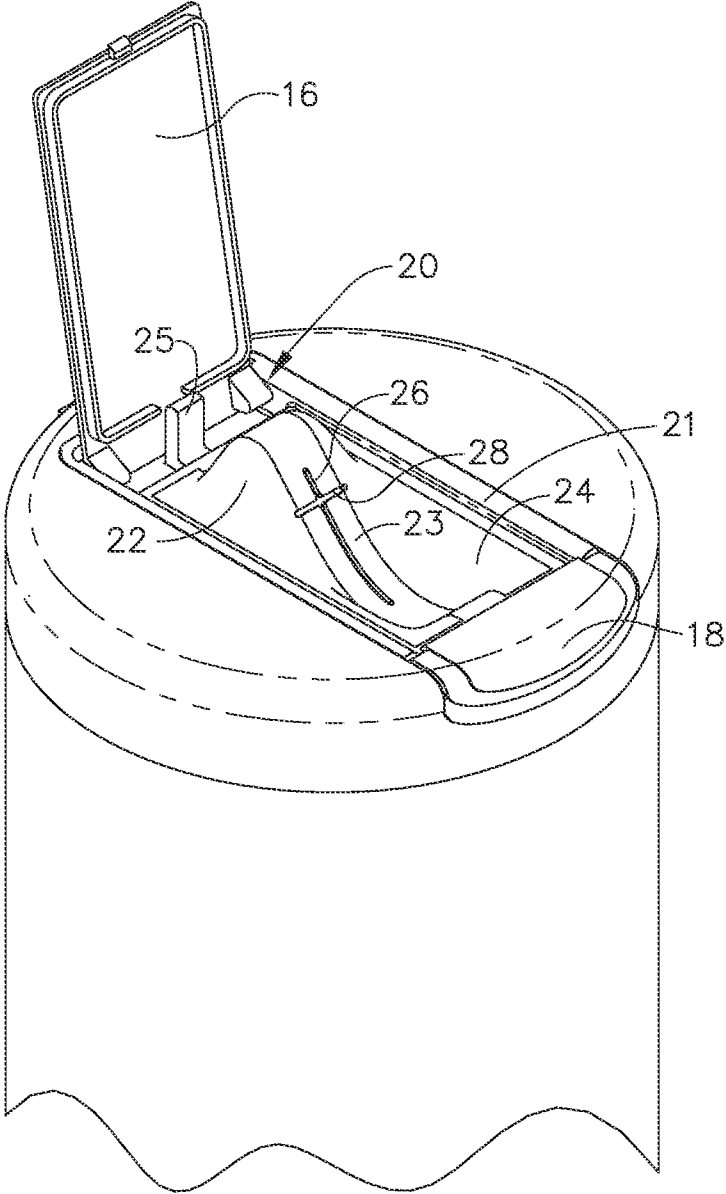


FIG. 2

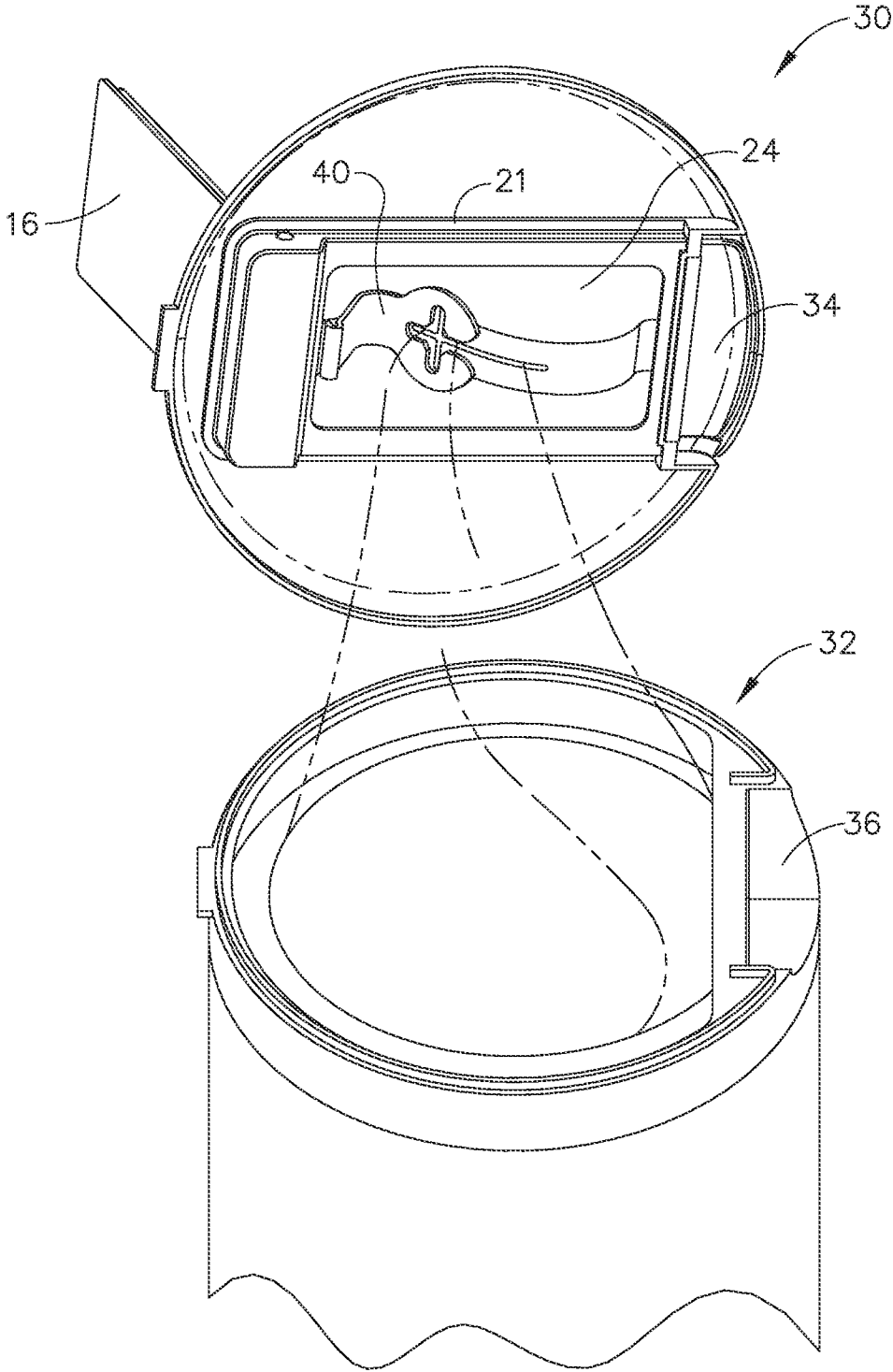


FIG. 3

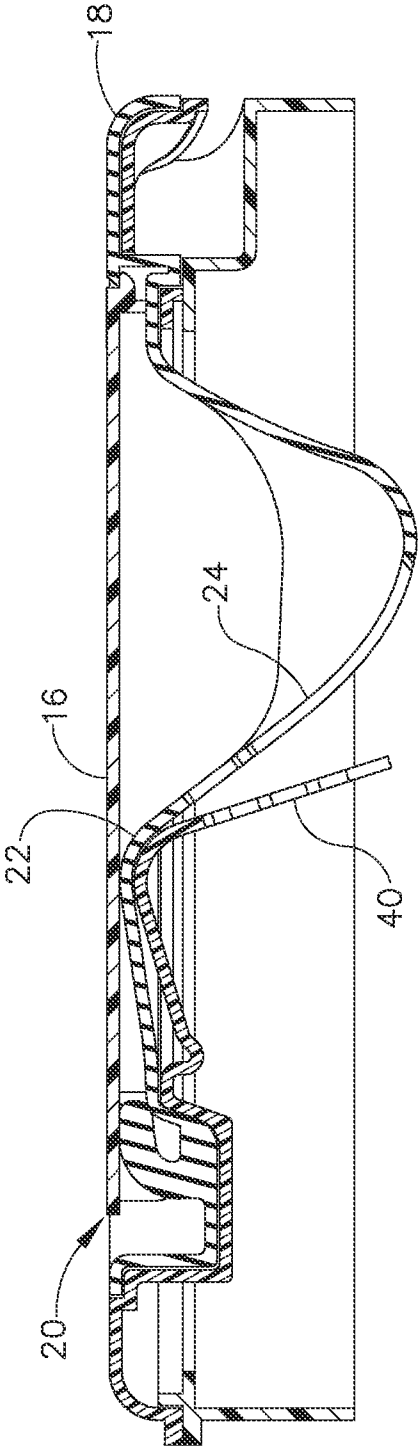


FIG. 4

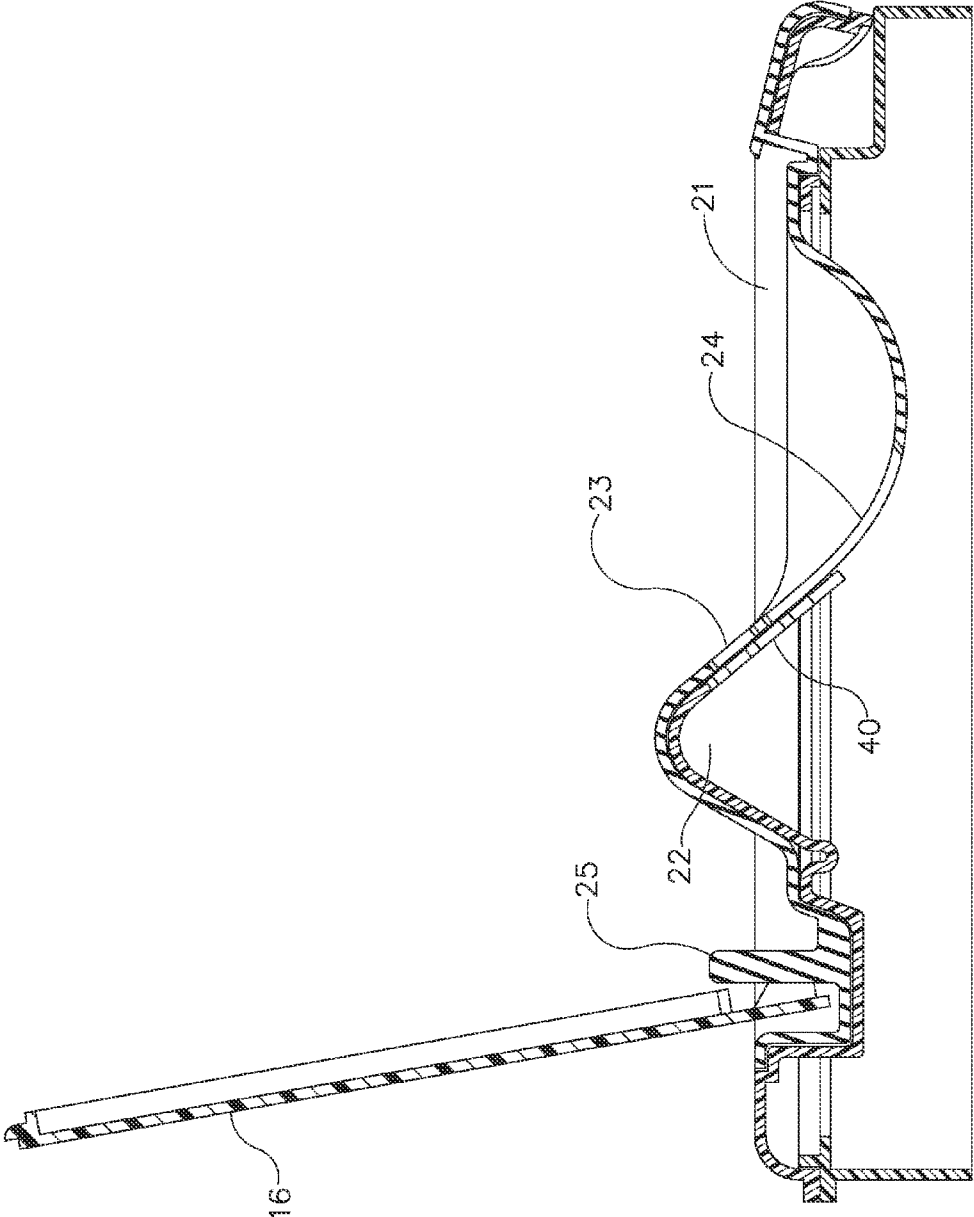


FIG. 5

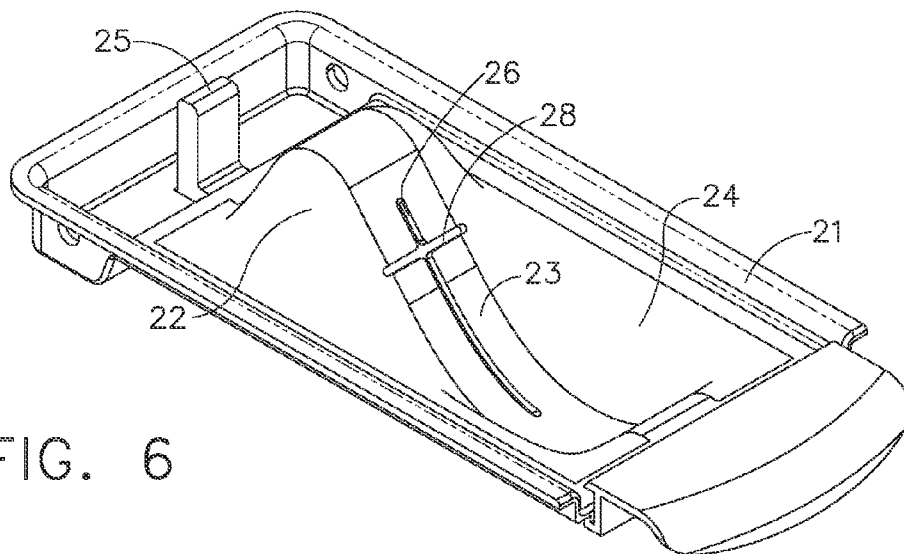


FIG. 6

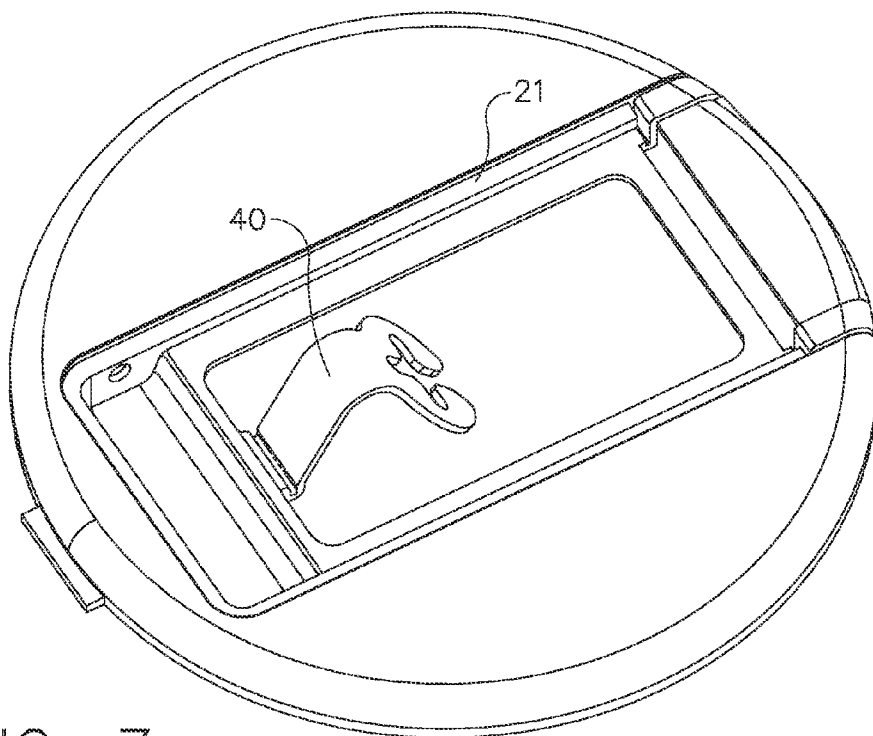


FIG. 7

CONTAINER AND CAP FOR DISPENSING WIPES

FIELD OF THE INVENTION

[0001] This invention relates to containers and caps for containers that dispense wipes, including wet and dry wipes. More particularly, the invention relates to improved containers and caps for wipes having a pop-up style dispensing means positioned beneath a reclosable lid.

BACKGROUND OF THE INVENTION

[0002] A variety of containers are available for dispensing wipes. These include reach-in and pop-up containers. Some pop-up containers provide a stack of interfolded flat wipes, which are commonly dispensed from a tub. Other pop-up containers provide a roll of wipes that are perforated between sheets and dispensed from an upright cylindrical container.

[0003] If the pop-up feature of a container fails, for example with missed interfolds or when a wipe falls back into the container, the user needs to reach into the container to retrieve the next wipe. Some pop-up containers do not have openings large enough or flexible enough for the user to reach into the container. The user thus has to remove the cap or lid in such designs to restart the roll or stack of wipes from the underside of the opening. Other containers for wet wipes have openings that do not provide a sufficiently good seal to prevent the wipes from drying out over time, hi containers having perforated wipes, such as upright cylindrical containers, the wipes may not properly tear along the perforations. This can result in multiple wipes being dispensed instead of a single wipe, or the user may need both hands to tear the lead wipe along its perforation line. Flaps or edges have been added to containers to improve separation of wipes or tearing of perforated wipes, but these can increase complexity of the design and may scratch or cut fingers if the user reaches into the container to pull out a wipe. Thus, there is a continuing need for improved containers and caps for dispensing wipes.

SUMMARY OF THE INVENTION

[0004] The present invention relates to a container for wipes having a pop-up style dispensing means positioned beneath a reclosable lid, said dispensing means comprising a raised member made of flexible, rubber-like material having at least one opening therein through which individual wipes are removed from the container when the lid is open, wherein when the lid is in a closed position it at least partially compresses the raised member and when the lid is released from its closed position the raised member pushes the lid open.

[0005] The invention also relates to a cap for a container for wipes, said cap having a pop-up style dispensing means positioned beneath a reclosable lid, said dispensing means comprising a raised member made of flexible, rubber-like material having at least one opening therein through which individual wipes are removed from the container when the lid is open, wherein when the lid is in a closed position it at least partially compresses the raised member and when the lid is released from its closed position the raised member pushes the lid open.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a perspective view of a container and a cap of the invention.

[0007] FIG. 2 is a perspective view of the top portion of the container and cap of FIG. 1 with the lid open.

[0008] FIG. 3 is a perspective view of the bottom of a lop portion, of the cap in FIG. 2.

[0009] FIG. 4 is an enlarged sectional view of the can of FIG. 1 with the lid closed.

[0010] FIG. 5 is an enlarged sectional view of the cap of FIG. 1 with the lid open.

[0011] FIG. 6 is an enlarged perspective view of a portion of the cap in FIG. 2.

[0012] FIG. 7 is an enlarged top perspective view of a portion of the cap of FIG. 1.

DETAILED DESCRIPTION OF THE DRAWINGS

[0013] As used herein, the term “container” means any container suitable for storing and dispensing wipes including, but not limited to, canisters, tubs, soft packs, and the like.

[0014] As used herein, the term “interfolded wipes” means a plurality of wipes, such as in a stack of wipes, in which separate individual wipes are releasably attached to each other by folding an edge of one wipe over an edge of an adjacent wipe.

[0015] As used herein, the term “perforated wipes” means a plurality of wipes, such as in a stack or roll, in which individual wipes are defined and interconnected by a series of perforation lines in a continuous sheet, such that each wipe can be detached from the remaining wipes by tearing the sheet along the hue of perforations.

[0016] Both interfolded wipes and perforated wipes can be used with the containers and caps of the invention. However, as described below, the containers and caps herein are particularly useful for dispensing perforated wipes, particularly wet wipes, from a roll. Such perforated wipes are typically in an upright cylindrical container. Interfolded wipes herein are typically contained within a rigid tub or a soft pack which may have a rigid cap and lid.

[0017] FIG. 1 illustrates an upright cylindrical container 10 of the invention having a cap 12, a lid 16 hingedly attached thereto via hinge 20 (shown in FIG. 2), and a base 14 for storing the wipes. Cap 12 typically is a removable cap made of plastic material, either resilient or hard plastic, adapted to form an air and moisture light fit with base 14, typically also made of resilient or hard plastic material. The cap can be fitted to the base of the container in any suitable manner. For example, the cap can have a friction fit, a snap-on fit, a screw-type fit, a twist-on/twist-off fit, an adhesive fit, or it may be molded to the base of the container as an integral unit. A removable seal or liner in the form of a membrane, plastic or foil may be applied under the cap or over the base to seal the container, for example to prevent loss of moisture in the container, prior to use.

[0018] Cap 12 has a button 18 along or near the front periphery of the cap. When the user depresses button 18, the front portion of lid 16, opposite the rear portion of the lid that is hingedly attached to the cap via hinge 20, is released to provide access to a pop-up style dispensing means for wipes, as shown in FIG. 2. However, unlike conventional containers, container 10 does not require, and typically does not have, a spring mechanism to pop open lid 16. Such spring mechanisms increase the cost and complexity of containers and often fail after repeated use. In container 10 of the invention, a raised member 22 made of flexible, rubber-like material pushes lid 16 open when the front of the lid is released by pushing button 18. As shown in FIG. 4, when lid 16 is closed

it at least partially compresses raised member 22. When the user depresses button 18 to release the front of lid 16 from its closed position, raised member 22 at least substantially returns to its normal (non-compressed) position and pushes lid 16 upward and at least partially open, as shown in FIG. 5. In the embodiment shown in FIG. 2, a protrusion 25, typically also made of flexible, rubber-like material, near the back portion of lid 16 also contributes to pushing the lid open. As shown in FIG. 4, when lid 16 is closed it at least partially compresses protrusion 25, pushing it downward and forward toward the front of the cap. When the user depresses button 18 to release the front of lid 16 from its closed position, protrusion 25 at least substantially returns to its normal positions and further pushes lid 16 upward and open, as shown in FIG. 5.

[0019] Cap 12 further comprises an insert member 21, as shown in FIG. 2. Insert member 21 is typically made of flexible, rubber-like material, but it may be made of hard plastic or resilient plastic material. A lip around the periphery of the insert member engages with an opening (not shown) in the top surface of the cap so the insert member can be fit securely into the top of the cap, as shown in FIG. 7. While the insert member shown is rectangular, it can have any shape and size large enough to contain the dispensing means and enable the user to reach into the container to grasp the next available wipe in the event of a dispensing failure. The insert member may have other suitable shapes, including, without limitation, square, oval, circular, triangular and irregular shapes.

[0020] As shown in FIG. 3, cap 12 has a top portion 30 and a bottom portion 32 that attaches to base 14 of the container in any suitable manner. For example, the top portion of the cap can be hingedly attached to the bottom portion, which can have a friction fit, a snap-on fit, a screw-type fit, an adhesive fit, or a molded fit to the base of the container. The back portion of lid 16 is hingedly attached via hinge 20 to insert member 21, which is inserted into the top portion of the cap. The front portion of lid 16 is secured in a closed position to the front of the cap by a suitable latching mechanism. When the user depresses button 18, the bottom portion 34 thereof engages support piece 36 in the bottom portion 32 of the cap and releases the front portion of lid, as shown in FIGS. 3-5.

[0021] The dispensing means of the invention comprises a raised member made of flexible, rubber-like material having at least one opening therein through which individual wipes are removed from the container when the lid is open. The at least one opening may have any suitable shape and size, for example the opening can be rectangular, oval, round, star-shaped, or irregular shaped, but typically is a narrow slit. In FIG. 2, raised member 22 has two intersecting slits 26 and 28 which create a "cross" slit configuration through which individual wipes are removed from the container.

[0022] As also shown in FIG. 2, raised member 22 has a front surface 23 that is inclined upward toward lid 16 at an angle of from about 20 degrees to about 60 degrees, typically from about 30 degrees to about 50 degrees, for example about 45 degrees. Such an angled surface makes it easier for the user to pull the wipe from the container toward themselves. The front surface of the raised member has at least one slit therein through which individual wipes are removed, but typically has at least two intersecting slits which create a "cross" slit configuration, such as vertically inclined slit 26 and horizontal slit 28 shown in FIG. 2. The slits are shown as intersecting at an angle of about 90 degrees, but may intersect at any suitable angle, for example up to about 135 degrees. In

another embodiment, a portion of the at least one slit extends into a recessed area 24 made of flexible, rubber-like material that is adjacent the raised member 22. The lower portion of inclined slit 26 that extends into recessed area 24 helps retain individual wipes in the slit opening and prevent them from falling back into the container.

[0023] In one embodiment, the dispensing means is recessed within cap 12 so that when lid 16 is closed, the top surface of the lid and cap are flat and in the same plane, as shown in FIGS. 1 and 4. In another embodiment, the pop-up style dispensing means can be located beneath a cover or the cap of the container that can be closed to seal the container when not in use.

[0024] The configuration and the length of the slit(s) in the flexible, rubber-like material can vary based on a number of factors, including evaporation losses, ease of wipe removal, sufficient frictional engagement to maintain the pop-up feature, and access to the wipes within the container in the event the pop-up feature fails. In one embodiment, the flexibility of the rubber-like material and the length of the at least one slit are sufficient to enable a user to reach into the container and retrieve a wipe in the event the pop-up feature fails, in another embodiment, the flexibility of the rubber-like material and the length of the at least one slit sufficiently seal moisture in the container to prevent substantial dry-out of wet wipes in the container. Intersecting slits works well to meet the foregoing considerations. Moreover, users may push a popped-up wipe back into the container to improve moisture retention or to more readily maintain sanitary conditions, and thereafter easily retrieve the wipe.

[0025] The slits in the flexible, rubber-like material are shown in the drawings as linear intersecting slits. Typically, the longest slit is about 1-2 inches long and the smaller slit is about 0.25-0.5 inches long. However, other slit configurations are also suitable, including star-shaped slits, X-shaped slits, straight slits and curvilinear slits. The length of individual slits can be about 0.25 to about 3 inches, more specifically from about 0.25 to about 2 inches. The length of the slits will in part depend upon the slit configuration and the number of slits. Typically, at least one slit has a length of at least about 1 inch which, in combination with the elasticity of the rubber-like sheet or material, will allow the user to reach into the container with at least two fingers as necessary. For tall containers, it may be necessary to lengthen at least one of the slits so that the user can still reach far into the container. For such a container, at least one of the slits may be between 1 and 4 inches in length, typically between 2 and 3 inches in length. This will allow the user to insert one or more fingers as well as part of the hand into the container to retrieve a wipe.

[0026] The flexible, rubber-like material having the slits should be sufficiently stiff to maintain a reasonable impediment to evaporation losses and to hold the wipes in the pop-up position. At the same time, it should be elastic enough to enable the user to reach into the container with the fingers sufficiently far, without hurting his/her fingers, to grasp a wipe from the top of the stack, even when the stack is down to one remaining wipe. To meet these requirements, the properties of the flexible, rubber-like material combine with the selected slit configuration to attain the desired end result. It will be appreciated that as the length of the slits increases or as the stiffness decreases, it becomes easier to reach one's finger into the container because the opening is larger. Although the rubber-like material can take many forms, a sheet form is readily made for commercial purposes.

[0027] The properties of the rubber-like material can be described in terms of the hardness, stiffness, thickness and elasticity. In one embodiment, the Shore A hardness (as measured by ASTM D2240) of the flexible, rubber-like material can be about 100 or less, more specifically from about 20 to about 70, and still more specifically from about 30 to about 60. The Gurley stiffness of the flexible, rubber-like material (as measured by ASTM D 6125-97 “Standard Test Method for Bending Resistance of Paper and Paperboard”) can be about 10,000 milligrams of force (mgf) or less, more specifically from about 100 to about 8000 mgf, more specifically from about 200 to about 6500 mgf and still more specifically from about 300 to about 1500 mgf. The thickness of the flexible, rubber-like base can be about 0.1 millimeter or greater, more specifically from about 0.1 to about 2 millimeters, and still more specifically from about 0.8 to about 1.5 millimeters. The elasticity of the flexible rubber-like material, as characterized by the tensile stress at 100 percent elongation and measured in accordance with ASTM D412 “Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers”, can be about 10 megapascals (Mpa) or less, more specifically from about 0.1 to about 7 Mpa, and still more specifically from about 0.5 to about 2.5 Mpa.

[0028] In another embodiment of the invention, the dispensing means further comprises a hard plastic backing member underneath a portion of the rubber-like material adjacent the at least one opening through which individual wipes are removed from the container. The backing member provides a hard surface, for example an edge, to help separate or tear the leading wipe from the next wipe in the container, but does not otherwise obstruct removal of wipes through the at least one opening. The backing member thus does not completely surround the at least one opening, which could make it difficult to reach into the container to retrieve the next wipe in the container. The backing member typically contacts and supports at least a portion of the rubber-like material. Typically, the backing member is underneath a portion of the rubber-like material that is adjacent the at least two intersecting slits which create the “cross” slit configuration. The backing member typically is underneath a portion of the raised member. As shown in FIGS. 3-6 and 7, hard plastic backing member 40 is underneath a portion of raised member 22, including an upper portion of the rubber-like material adjacent slits 26 and 28 near their intersection. However, backing member 40 does not extend underneath the rubber-like material adjacent the lower portion of slit 26 that extends into recessed area 24. In other embodiments, the backing member may be covered by, e.g., coated with, the rubber-like material or encased within the rubber-like material.

[0029] In another embodiment of the invention, the container is a flexible package, such as a plastic film-wrapped package, having a flip-top style dispensing opening. Such a flexible plastic film package may contain a stack of wipes. A dispensing means is provided on the top of the package, which dispensing means comprises a rigid port surrounding a flexible, rubber-like material having one or more slits through which the wipes are removed from the package. The flip-top lid can be closed over the rigid port to seal off the container when not being used. Any suitable closure design can be used to affect a proper seal.

[0030] While the invention has been illustrated in a particular style of container, those skilled in the art will appreciate that many different container designs are possible, including rigid, rectangular tub containers and flexible package con-

tainers, such as a plastic film-wrapped package, without departing from the scope of the invention. While particular embodiments of the invention have been described, it will be apparent to those skilled in the art that various changes and modifications can be made without departing from the scope of the invention. Thus, the foregoing description is not to be construed as limiting the scope of the invention, which is defined by the following claims and all equivalents thereto.

What is claimed is:

1. A container for wipes having a pop-up style dispensing means positioned beneath a reclosable lid, said dispensing means comprising a raised member made of flexible, rubber-like material having at least one opening therein through which individual wipes are removed from the container when the lid is open, wherein when the lid is in a closed position it at least partially compresses the raised member and when the lid is released from its closed position the raised member pushes the lid open.

2. The container of claim 1 wherein the wipes are perforated and contained within an upright cylindrical container.

3. The container of claim 1 wherein the wipes are interfolded and contained within a rigid tub.

4. The container of claim 1 wherein the at least one opening is at least one slit and the flexibility of the rubber-dike material and the length of the at least one slit are sufficient to enable a user to reach into the container and retrieve a wipe in the event the pop-up feature fails.

5. The container of claim 4 wherein the flexibility of the rubber-like material and the length of the at least one slit sufficiently seal moisture in the container to prevent substantial dry-out of wet wipes in the container.

6. The container of claim 1 wherein the raised member has at least two intersecting slits which create a “cross” slit, configuration through which individual wipes are removed from the container.

7. The container of claim 1 wherein the raised member has a front surface that is inclined upward toward the back of the lid at an angle of from about 20 degrees to about 60 degrees when the lid is open, and the front surface of the raised member has at least one slit therein through which individual wipes are removed.

8. The container of claim 7 wherein the front surface of the raised member is inclined upward toward the back of the lid at an angle of from about 30 degrees to about 50 degrees when the lid is open, and the front surface of the raised member has at least two intersecting slits which create a “cross” slit configuration.

9. The container of claim 1 wherein a portion of the at least one opening extends into a recessed area made of flexible, rubber-like material adjacent the raised member and said portion helps retain individual wipes in the at least one opening and prevent them from falling back into the container.

10. The container of claim 1 wherein the pop-up style dispensing means is recessed within a cap having a button along a front periphery of the cap, wherein when the button is depressed a front portion of the lid, opposite a rear portion of the lid hingedly attached to the cap, is released to provide access to the pop-up style dispensing means.

11. The container of claim 1 wherein the dispensing means further comprises a hard plastic backing member underneath a portion of the rubber-like material adjacent the at least one opening through which individual wipes are removed from the container.

12. A cap for a container for wipes, said cap having a pop-up style dispensing means positioned beneath a reclosable lid, said dispensing means comprising a raised member made of flexible, rubber-like material having at least one opening therein through which individual wipes are removed from the container when the lid is open, wherein when the lid is in a closed position it at least partially compresses the raised member and when the lid is released from its closed position the raised member pushes the lid open.

13. The cap of claim **12** for an upright cylindrical container containing perforated wipes.

14. The cap of claim **12** for a rigid tub containing inter-folded wipes.

15. The cap of claim **12** wherein the at least one opening is at least one slit and the flexibility of the rubber-like material and the length of the at least one slit are sufficient to enable a user to reach into the container and retrieve a wipe in the event the pop-up feature fails.

16. The cap of claim **15** wherein the flexibility of the rubber-like material and the length of the at least one slit sufficiently seal moisture in the container to prevent substantial dry-out of wet wipes in the container.

17. The cap of claim **12** wherein the raised member has at least two intersecting slits which create a “cross” slit configuration through which individual wipes are removed from the container.

18. The can of claim **12** wherein the raised member has a front surface that is inclined upward toward the back of the lid

at an angle of from about 20 degrees to about 60 degrees when the lid is open, and the front surface of the raised member has at least one slit therein through which individual wipes are removed.

19. The can of claim **18** wherein the front surface of the raised member is inclined upward toward the back of the lid at an angle of from about 30 degrees to about 50 degrees when the lid is open, and the front surface of the raised member has at least two intersecting slits which create a “cross” slit configuration.

20. The cap of claim **12** wherein a portion of the at least one opening extends into a recessed area made of flexible, rubber-like material adjacent the raised member and said portion helps retain individual wipes in the at least one opening and prevent them from falling back into the container.

21. The cap of claim **12** wherein the pop-up style dispensing means is recessed within the cap, wherein when a button along a front periphery of the cap is depressed a front portion of the lid, opposite a rear portion of the lid hingedly attached to the cap, is released to provide access to the pop-up style dispensing means.

22. The cap of claim **12** wherein the dispensing means further comprises a hard plastic backing member underneath a portion of the rubber-like material adjacent the at least one opening through which individual wipes are removed from the container.

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