The present invention provides a packing system for storage of powders and granular materials comprising a container, a lid that may be reversibly secured to the body and a mountable scoop for retrieving amounts of the container’s contents. The lid typically has a top side, an underside, and a rim wall which reversibly engages the body of the container for secure fit. The lid further comprises a nub on the underside thereof, which may be located in the center or off-center of the lid. The mountable scoop typically comprises a handle and a bowl for scooping, the handle having an aperture therethrough designed to snap-fit the nub such that the scoop may be reversibly mounted on the underside of the lid. In another embodiment, the bowl of the scoop may be collapsible to minimize its vertical profile when mounted onto the underside of the lid.
FIG. 2
CONTAINER WITH A MOUNTABLE SCOOP

FIELD OF INVENTION

The present invention relates generally to a packaging system for powdered or granular materials comprising a scooping or measuring utensil mounted onto the underside of the container lid. 

BACKGROUND

Many powdered or granular consumer goods are available in containers, such as plastic jars, cans, etc., which include a utensil, such as a scoop, for measuring out predetermined amounts of material from inside the container. The utensil is usually provided loosely on top of the powdered or granular material. A drawback of having a scoop placed loosely in the container is that the user has to search for the scoop each time, sometimes burying fingers inside the powder, which can contaminate the contents of the container.

Attempts have been made to overcome this problem by introducing structures inside the container or lid for mounting the utensil. Those structures typically require secondary mechanisms on either the side of the container or the lid. For example, U.S. Pat. Nos. 7,464,475, 8,042,704 and 8,376,179, and WIPO Pub. No. 2011/081677, each of which is incorporated herein by reference, require complicated and costly manufacturing of elements for mounting a scoop by its handle. Others, for example, U.S. Pat. No. 5,706,974, use a lip for pressing the bowl of a scoop in the lid of the container, which has the drawback of requiring a specifically configured scoop in addition to the manufacturing complexity.

Containers of powdered or granular products for human consumption typically include a safety seal to protect their contents. Another drawback of the current mounting structures, such as, for example, those disclosed in U.S. Pat. Nos. 8,042,704 and 8,376,179, is that they do not facilitate, or altogether preclude, the inclusion of the safety seal across the mouth of the container. In most cases, prior art mounted scoops would either interfere with the safety seal, or the body of the container would require a redesign to accommodate both the scoop and the safety seal.

There exists a need in the art for a mounting means that may be manufactured economically, ideally without requiring modification of the container or safety seal.

SUMMARY OF THE INVENTION

In accordance with the foregoing objectives and others, the present invention provides a packaging system for storage of powders and granular materials comprising a container housing a quantity of said material and a lid that may be reversibly secured (e.g., screwed onto) the body to enclose the material within the container and, preferably, retard spoilage of the material, for example, by limiting or prohibiting entry of air and moisture into the container. The lid typically has a top side, an underside, and a rim wall which engages the body of the container for secure fit. The lid further comprises a nub on the underside thereof, which may be located in the center or off-center of the lid. In one embodiment the rim wall comprises threading on the inside surface complementary to threading on the outside surface of the top of the body (e.g., neck region). In one embodiment the lid has a rim wall with a large vertical dimension (e.g., greater than the height of the scoop), designed to house the entirety of the scoop within its dimensions on the underside thereof by a press-fit or snap-fit engagement such that it may be attached to the container, for example, by complementary threading, without removing or interfering with a safety seal across the mouth of the container. The mountable scoop typically comprises a handle and a bowl for scooping, the handle having an aperture therethrough designed to snap-fit the nub such that the scoop may be reversibly mounted on the underside of the lid. In another embodiment, the bowl of the scoop may be collapsible to minimize its vertical profile when mounted onto the underside of the lid.

These and other aspects of the invention will be better understood by a reading of the following detailed description, accompanying drawing, and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a packaging system comprising a container and a lid, with a scoop mounted on the underside of the lid according to an embodiment of the present invention.

FIG. 2 illustrates a bottom view of a container lid with a scoop mounted thereon according to an embodiment of the present invention.

FIG. 3 is a side cross-sectional view of a container lid having a large vertical rim wall with a scoop mounted thereon according to an embodiment of the present invention.

FIG. 4 is a perspective view of a container lid showing a scoop mounted by press fit to a nub on the underside of the lid according to an embodiment of the present invention.

FIG. 5 illustrates an embodiment of the present invention wherein the mounted scoop is collapsible to minimize rim wall height.

DESCRIPTION OF THE INVENTION

The present invention includes a packaging system for a powdered or granular material comprising a container and a lid reversibly secured thereto (e.g., by press-fit, screw threads, etc.), and a mountable scoop having a bowl and a handle, the handle typically comprising a generally flat elongated portion being configured with an aperture, such as a circular hole, therethrough for mounting it to the lid. The bowl may be of any shape (e.g., round, square, etc.). The volume of the bowl may vary but will typically be between 1 ml and 70 ml, more preferably between 10 ml and 50 ml. The opening in the handle may be of any shape, preferably a circular shape. The container and the scoop may comprise any material conventionally used in the art, such as plastic (e.g., polyethylene, polypropylene, HDPE, LDPE, PET, PEN, polycarbonate, polystyrene, PVC, polyurethane, etc.) or silicone, and may comprise the same or different materials.

The aperture in the handle of the scoop is designed to press-fit or snap-fit a protrusion (e.g., a nub) extending from the underside of the lid. The nub may be located in the center of the underside of the lid, for example, when the lid has a circular shape. In another embodiment the nub may be located off-center at any location on the underside face of the lid. The nub may be of any cross-sectional shape, typically a circular cross-sectional shape, and preferably complementary to the shape of the aperture in the handle. The diameter or width of the nub may be of any size, typically from 1 to 10 mm in diameter, either complementary or slightly larger than the diameter or width of the hole to allow for easy and secure snap-fitting or press-fitting by the manufacturer and/or the user. When the aperture in the handle and/or the nub has other than a circular shape or cross-section, it will be understood
that the foregoing dimensions correspond to the widest part of the aperture and/or nub. The nub may have a constriction (e.g., an annular constriction) in the protrusion for improved fit, as depicted in FIG. 3. The nub may be made from the same or different material as the container lid, but is preferably the same and is formed as a single body with the lid.

In some embodiments, a safety seal (e.g., a paper or plastic film) may cover the opening of the container to protect its contents prior to first use. During manufacture, the safety seal will typically be applied before the lid is secured to the container. The lid may be configured with a rim having a vertical wall suitably dimensioned to house the entirety of the scoop above the safety seal and within the dimensions of the lid, such that the scoop rests above and does not interfere with the safety seal, as shown in FIGS. 1-4. The vertical dimension of the rim wall may be, for example, in the range of about 1 cm to about 15 cm, preferably in the range of about 2 cm to about 10 cm.

In one embodiment the utensil (e.g., scoop) is mounted onto the underside of the lid prior to attaching the lid to the body of the container. The container may or may not have an intact safety seal at the time the scoop is mounted. After use, the utensil may be re-attached to the lid by pressing the aperture over the nub and screwing or otherwise securing the lid back onto the container.

Referring now to FIG. 1, a typical packaging system 100 for storing powdered or granular products is depicted. The packaging system comprises a container 150 and a lid 100 attached thereto. The lid 110 comprises a rim wall 120 having a vertical height, and houses a scoop 200 reversibly mounted to the underside thereof via an aperture means 250. The lid’s rim wall 120 is tall enough to accommodate the entirety of the scoop within its dimensions. The opening of scoop 200 is held generally flush with the underside of lid 110. Referring to FIG. 2, the underside view of lid 110 of one embodiment is shown, with a snap-fit attachment means 250 located in the center of the circular lid. The total length of the utensil 200 (e.g., from the center of the aperture to the most distal edge of the bowl) may be less than or approximately the same as the radius of the lid. The opening and the corresponding nub may both be circular.

FIG. 3 shows a cross-sectional side view of the lid 110 fitted on top of the body of the container. It illustrates an embodiment wherein the scoop 200 has a bowl 210 and a generally planar handle 220 which snap-fits onto a nub 130 (shown off-center in FIG. 3) on the underneath of the lid via an aperture (e.g., circular hole) 230 within handle 220. FIG. 3 also illustrates a safety seal layer 300 optionally covering the opening of the container. In this embodiment, the rim wall 120 is tall enough to accommodate the scoop in such a way that the bowl is not in contact and/or does not interfere with the safety seal layer and the threading when the lid is secured to the container. FIG. 4 provides another view of the underside of the lid 110 housing the mounted scoop 200 within the volume of the lid’s rim wall 120 (e.g., the depth of bowl 210 is less than the height of the rim wall 120).

In another embodiment, a scoop with a collapsible or readily deformable bowl is used, such as, but not limited to, those disclosed in WIPO Pub. No. 1996/08787, incorporated herein by reference. The scoop’s bowl may have a series of concentric, tightly fitted parts and may capable of collapsing into a shape of a smaller volume. The collapsible bowl thus may have at least two states, meaning an open state for scooping and a collapsed state (having a smaller vertical dimension) for storage. The user easily alternates between the states by pushing the back of an open bowl to collapse or the inside of a collapsed bowl to extend. In one embodiment the scoop may have additional, intermediate states, in which a partially collapsed scoop presents a bowl of a smaller volume for alternative dosing. One embodiment of a collapsible scoop 500 having the bowl 510 in the collapsed state featuring an aperture 530 through handle 520 is shown in FIG. 5. The underside of lid 110 may be equipped with a nub or protrusion 130 designed to snap-fit or press-fit the hole 530. This embodiment is advantageously adapted to fit existing, conventional powder container jars and would require no modification to the body of the container or to the rim wall 120 and/or threading. The collapsible scoop preferably does not interfere with an optional safety seal even when the rim wall is of conventional height (e.g., less than about 2.5 cm in height).

The packaging system may house any powdered or granular material, including without limitation, protein powder, amino acid powders, nutritional supplements, drink mixes, baby formula, sugar, flour, powdered milk, detergents, coffee, instant coffee, baking soda, baking powder, spices, minerals, baby powder, pet food, pet litter, and the like.

The invention described and claimed herein is not to be limited in scope by the specific embodiments herein disclosed since these embodiments are intended as illustrations of several aspects of the invention. Any equivalent embodiments are intended to be within the scope of this invention. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description. Such modifications are also intended to fall within the scope of the appended claims. All publications cited herein are incorporated by reference in their entirety.

What is claimed:
1. A packaging system for powdered or granular materials comprising:
   a container for housing said powdered or granular material,
   the container having an opening for accessing said material;
   a lid for reversibly closing said opening in the container, the lid comprising a top side and an underside, and a nub extending from the underside thereof; and
   a mountable scoop comprising a handle and a bowl, the handle having an aperture therethrough adapted to snap-fit over the nub.
2. The packaging system according to claim 1, wherein the nub is located in the center of the lid.
3. The packaging system according to claim 1, wherein the nub is located off-center.
4. The packaging system according to claim 1, wherein the container comprises a safety seal covering said opening and the mountable scoop is housed entirely within the dimensions of the lid such that the lid may be secured to the container without interfering with said safety seal.
5. The packaging system according to claim 1, wherein the scoop has a collapsible bowl.