Feb. 2, 1965 H. J. WANDERER 3,168,222

DISPENSING CONTAINER

Filed Jan. 14, 1963

Fig. 1.

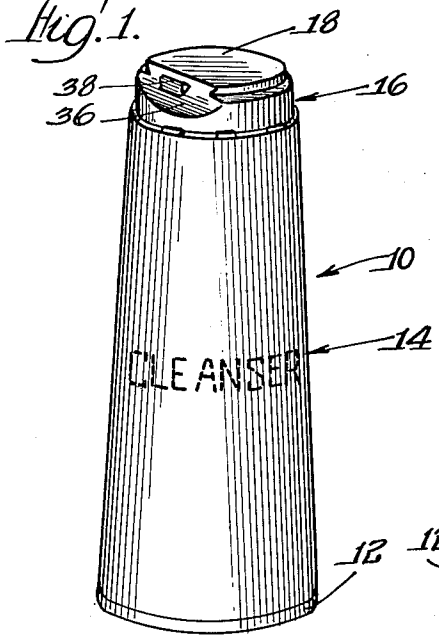
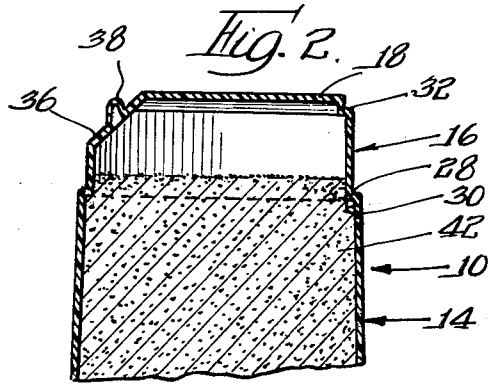


Fig. 2.



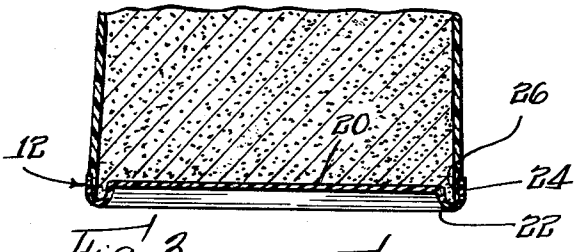


Fig. 3.

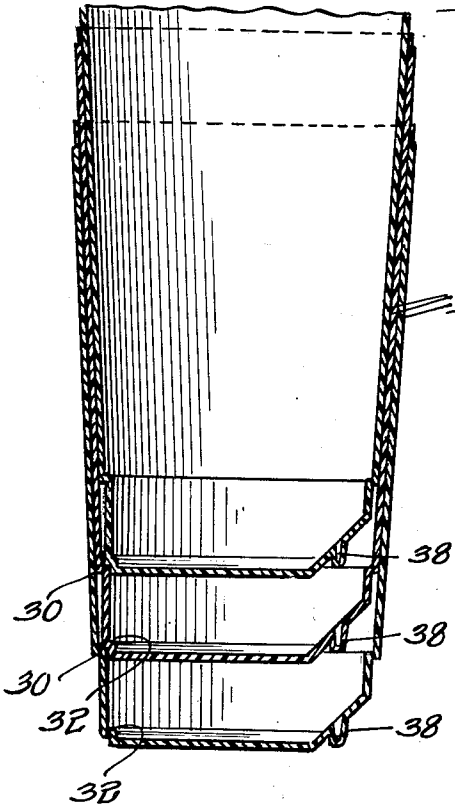
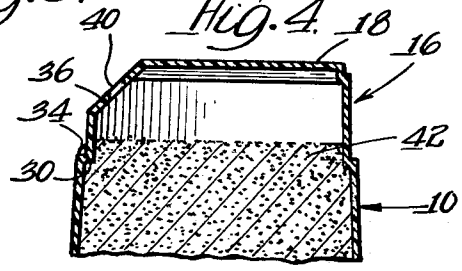


Fig. 4.



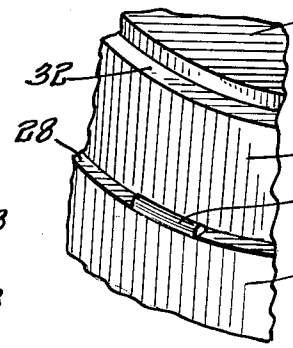


Fig. 5.

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DISPENSING CONTAINER

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4 Claims. (Cl. 222—142.1)

This invention relates to the container art, and particularly to a plastic container for cleansing powders and the like.

Cleansing powders, such as those commonly used in the kitchen for scouring sinks, etc., have conventionally being packaged in containers consisting of cardboard tubes with metallic ends, one of the ends being perforated. Such containers are simple to make and are relatively cheap. However, they have many drawbacks.

The known cleansing powder containers, as outlined above, have occupied as much space before filling as after filling, thereby requiring an unduly large storage space.

Accordingly, it is an object of this invention to provide an improved container so designed that a plurality of containers can be stacked together in a very small space in nested, telescoped relation.

The prior art containers, as noted above, have required the affixing of a metal cap or end piece to each end of the cardboard tube. This has required two distinct assembly operations.

It is an object of this invention to provide a plastic container for cleansing powders or the like in which only one closure member need be applied.

More particularly, it is an object of this invention to provide a container for cleansing powder and the like which is of generally tubular or frusto-conical shape and has one end formed integral therewith.

The metal ends of the prior art containers have presented various drawbacks in use. Apertures have had to be scored in one end to be punched out for release of the powder. Such punching out has frequently proved frustrating to the user. Furthermore, the metallic ends have always been subject to corrosion. Steel is most commonly used for the ends, and rusts if set down in a damp location, frequently leading to rust stains which are difficult or impossible to remove from counter tops and the like.

Furthermore, most present-day household cleansing powders contain chloride salts to bleach the article being cleaned. Such salts are extremely corrosive, and if any moisture at all comes in contact with the salts and a metal container end, extensive corrosion of the container end quickly results. It will be appreciated that the prior art container ends are substantially flat, and have upstanding beaded rims whereby any water that might splash on top of a container will be caught and will stay there, except that which leaks down into the cleansing powder through the perforations, causing it to cake and stick within the container.

Even without such caking, it is difficult to get the last bit of powder out of the container.

In view of the foregoing, it is an object of this invention to provide a container for cleansing powders and the like which is readily openable.

It is a further object of this invention to provide a container for cleansing powders and the like which is made completely of inert materials.

It is a further object of this invention to provide a container for cleansing powders and the like having a discharge orifice on a sloping surface, whereby to discourage entry of water and to facilitate egress of the cleansing powder.

It is an object of this invention to provide a container for cleansing powders which is of frusto-conical shape, thereby providing a convenient hand grip for hands of widely differing sizes.

It is a further object of this invention to provide a container for cleansing powders and the like which container has flexible sidewalls whereby the container may be squeezed to blow out the last bit of powder therein.

It is a further object of this invention to provide a plastic container for cleansing powders and the like, which container readily can be embossed during manufacture at no extra cost.

It is another object of this invention to provide a plastic container for cleansing powders and the like, which container is designed for a plurality thereof to interfit in stacked, nested, telescoped relation for storage, and wherein a stacking ring is provided which facilitates such stacking and also reinforces the sidewall in the vicinity of the discharge end of the container.

It is still another object of this invention to provide a more economical container for cleansing powders and the like.

Other and further objects and advantages of the present invention will be apparent from the following description when taken in connection with the accompanying drawings wherein:

FIG. 1 is a perspective view of a container for cleansing powders or the like, constructed in accordance with the principles of the present invention;

FIG. 2 is a fragmentary longitudinal sectional view on an enlarged scale taken along the axis of the container in FIG. 1;

FIG. 3 is an axial sectional view on an enlarged scale to FIG. 2 showing a plurality of containers stacked together in nested, telescoped relation;

FIG. 4 is an axial sectional view of the top part of a container on the same scale as FIG. 2, and after removal of the discharge orifice closure member; and

FIG. 5 is a fragmentary perspective view on an enlarged scale showing a detail of the stacking ring.

Referring now in greater particularity to the drawings, there will be seen a dispensing container for cleansing powders and the like identified generally by the numeral **10**, and comprising a bottom **12**, a frusto-conical sidewall **14** tapering inwardly and upwardly therefrom, and having at its upper end a stepped ring section **16**, and a top **18**. All of the parts with the exception of the bottom **12** are integral and are made preferably by a plug-assist blow molding technique.

The bottom, as best may be seen in FIG. 2, comprises a structure in the nature of a lid or cap, including a flat bottom wall **20**, a lower or depressed channel or trough-like portion **22**, and an upstanding circular flange **24**. The sidewall **14** is of slightly lesser diameter at **26** for cooperation with the flange **24**. Conveniently, the flange **24** is secured to the thin sidewall portion **26** by a suitable adhesive after the container has been filled.

Aside from the thin portion **26**, the sidewall rises uniformly from the bottom up to the stepped portion **16**, there first being an external shoulder **28**, with a comple-

mentary internal shoulder **30**. The sidewall is rather abruptly decreased in diameter at this position, and then extends up substantially uniformly to another external shoulder **32**, where the sidewall again is abruptly decreased in diameter, from whence it extends up to the top **18**.

The stepped portion **16** serves to render the sidewall more rigid in the vicinity of the top **18**. It also serves for stacking a plurality of containers together in nested relation before filling, as will be brought out hereinafter. As best may be seen in FIG. 5, a plurality of arcuately spaced protuberances **34** is provided on the shoulder **28**. This is to prevent air lock which would hold stacked containers together.

As readily will be seen in FIGS. 1 and 2, a diagonal or oblique surface **36** intersects the stacking ring section **16** and the top **18**. This oblique surface **36** is provided with a generally vertical protuberance **38** somewhat elongated in a chordal direction. With the exception of this protuberance, the entire container is of remarkably uniform sidewall thickness, being on the order of .015–.030" thick, the specific thickness within this range being predetermined in accordance with commercial requirements. The protuberance **38**, on the other hand, is deliberately made somewhat thinner by being blow molded from a localized area of the plastic. Although a wide variety of plastics is suitable for the manufacture of the present container, one of the more-or-less flexible styrenes is recommended as being suitable. Due to the nature of the plastic, and the thinness of the protuberance **38**, being on the order of half as thick as the remainder of the container, the protuberance **38** is readily removed with a paring knife or other readily available kitchen cutting implement, leaving an aperture or opening **40** as seen in FIG. 4 for dispensing of the cleansing powder from the container.

As will be appreciated, any sort of powdered material tends to settle down somewhat in shipping, whereby the top of the powder **42** within the container **10** is at a level somewhat below the aperture **40**, thus to avoid inadvertent egress of the powder through the aperture. When it is desired to dispense powder from the container, the container is gripped at any convenient height, in accordance with the size of the hand of the user, and substantially inverted. The cleansing powder then may be shaken from the aperture **40**. The oblique nature of the surface **36** allows the container to be held at an angle, whereby it is easy to see around the container to observe the area on which the powder is being deposited. This is in distinction to the usual type of container which completely masks the area on which the powder is being deposited.

When the container is approaching the empty condition and the small weight of the remaining powder tends to make dispensing thereof difficult, it is a simple matter to squeeze the sidewall **14** of the container, thereby to flex it in and to raise the pressure of the air within the container, whereby to pump the cleansing powder out through the aperture **40**. This action is augmented by the oblique nature of the surface **36** which allows the remaining powder to be concentrated in a small pile, more or less in a corner of the container, as opposed to the usual type of container in which the powder is spread out across the under surface of the top of the container.

Reference heretofore has been made to stacking of the containers before filling, and this is illustrated in FIG. 3. The containers are inverted, being upside down, and the external shoulder **32** of one container rests on the internal shoulder **30** of a subjacent container. This prevents the containers from wedging together, as they might otherwise do. The protuberances **34** on the external shoulders **28** are accompanied by recesses corresponding thereto in the internal shoulders **30**, whereby to provide air bleed passages to prevent air pressure from holding the stacked containers together.

As will be seen with particular reference to FIG. 3 (as well as to FIG. 2), the protuberances **38** are located within the outlines of the container. That is to say, the axial extent of the protuberance of each container is short of the corresponding top **18**. Furthermore, the radial extent thereof is short of the radius of the stacking ring section **16**. Thus, no matter in what way the containers may be stacked, the protuberances **34** will not interfere with adjacent containers. In this connection, it will be understood that the containers will most likely be stacked in random rotational position whereby protuberances **38** of adjacent containrs would not necessarily be aligned with one another.

Containers are removed gravitationally from the stack in FIG. 3 for filling in the inverted filling position shown. The caps or bottoms **12** then are placed over the open, upwardly facing lower ends of the containers, with an appropriate adhesive first having automatically been applied either to the inside of the flange of the bottom, or to the corresponding portion of the sidewall **14** in the thinned area **26**. The cement or adhesive sets with great rapidity, and the container may be inverted practically immediately for shipment.

The recessed bottom cooperates with the top of a subjacent container for relative positioning in shipping or display. It will be observed that the dispersing projection **38**, being entirely within the silhouette of the container is not endangered by such stacking. Being rather thin and of plastic construction, the bottom is flexible and readily takes up physical shocks, variation in barometric pressure, and variation in internal volume in instances in which air trapped in the container combines with bleach in the cleansing powder.

As is indicated by the word "cleanser" in FIG. 1, various labels or indicia may be embossed in the sidewall (or top or bottom) of the container. This is done at no extra cost of manufacture simply by appropriately shaping or texturing the mold, or both. Sandblasting the mold wall through a stencil (with an otherwise smooth mold wall) produces an interesting texture and a degree of embossment determined by the extent of sandblasting.

It will now be observed that the various objects of the invention have been attained. A specific embodiment of the invention has been disclosed, for dispensing cleansing powder or other fluid materials, and it will be understood that the particular embodiment is for illustrative purposes only. Various changes in structure will no doubt appear to those skilled in the art, and will be understood as forming a part of the present invention insofar as they fall within the spirit and scope of the appended claims.

The invention is claimed as follows:

1. A dispensing container of plastic material including a one piece body portion capable of being nested with other body portions of like configuration, and a bottom element adapted to be subsequently applied thereto, said body portion including a tapering sidewall and an integral imperforate top joined to said sidewall at a circumferential margin opposite the margin with which said bottom element is adapted to be mounted, said imperforate top and the sidewall in the vicinity of their juncture being traversed by an oblique surface on which is provided means capable of rupture or removal for egress of the contents of said container, and a stacking ring element provided on the sidewall of said body portion which facilitates separation of said body portion from body portions of like configuration when nested therewith including an internal shoulder, and an external shoulder spaced vertically therefrom, the external shoulder of one container being engageable with the internal shoulder of an adjacent body portion in stacked, nested, telescoped relation therewith to limit the degree of telescoping.

2. A dispensing container as set forth in claim 1 wherein one of the shoulders is circumferentially discontinuous and includes axial protuberances providing air ports to facilitate separation of telescoped containers.

3. A dispensing container as set forth in claim 1 where-

in the means provided on said oblique surface comprises a protuberance integral with and extending from said oblique surface, said protuberance lying within the projected outlines of said imperforate and said tapering sidewall.

4. A dispensing container as set forth in claim 3 wherein said protuberance is of lesser thickness than the remainder of said container body portion to facilitate severing thereof.

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