May 5, 1970 F. E. ULLMAN ET AL 3,510,023

PLASTIC CONTAINER AND LID THEREFOR

Filed Aug. 14, 1968 2 Sheets-Sheet 1

FIG. 1

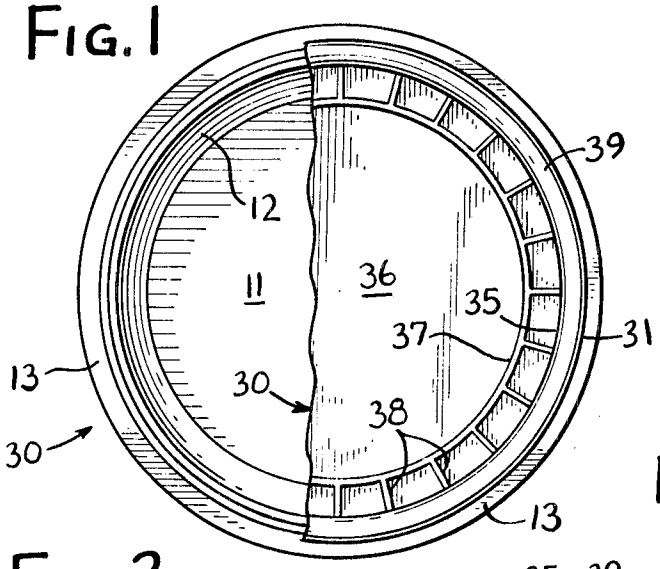


FIG. 2

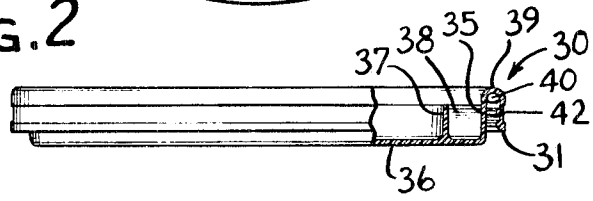


FIG. 3

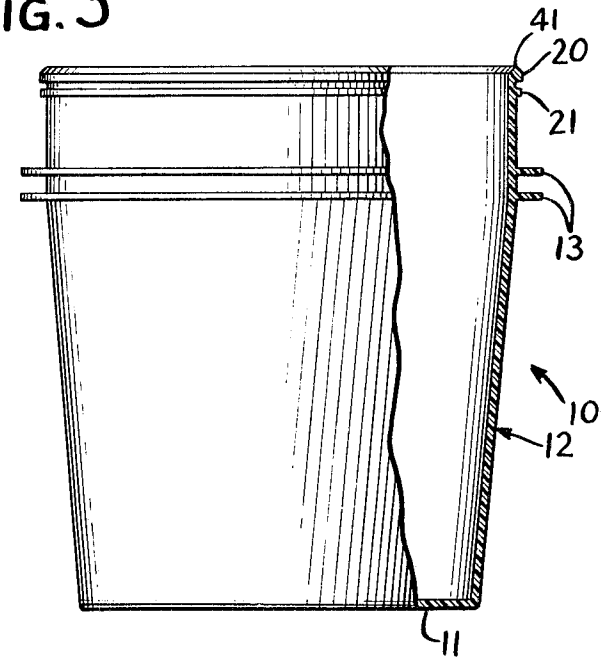


FIG. 4

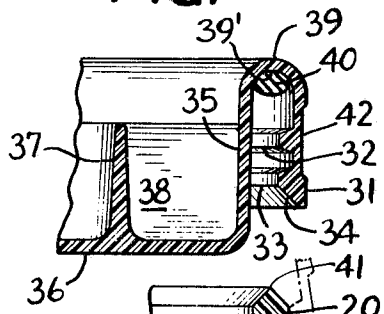


FIG. 5

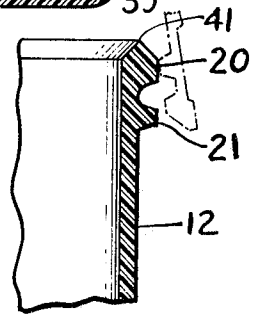


FIG. 6

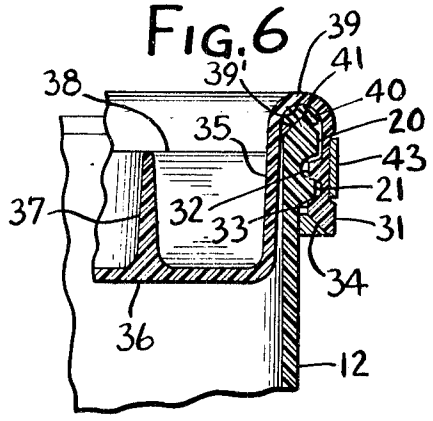
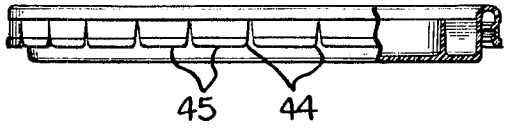


FIG. 7



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May 5, 1970 F. E. ULLMAN ET AL 3,510,023

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Filed Aug. 14, 1968 2 Sheets-Sheet 2

FIG. 8

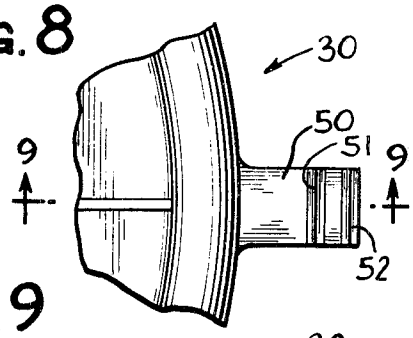


FIG. 9

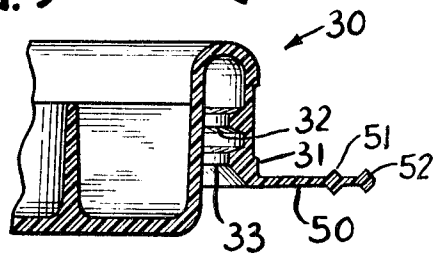


FIG. 10

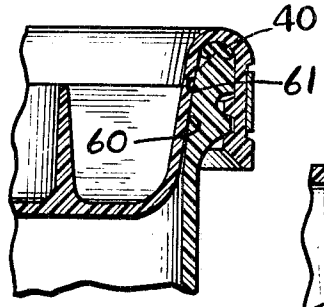


FIG. 14

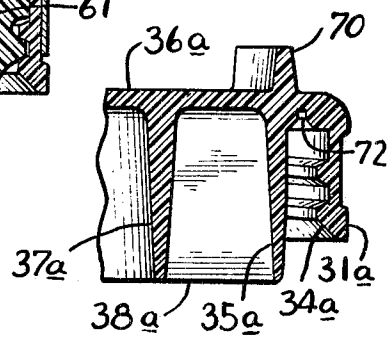


FIG. 15

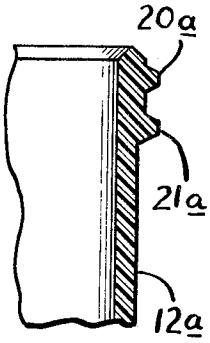


FIG. 11

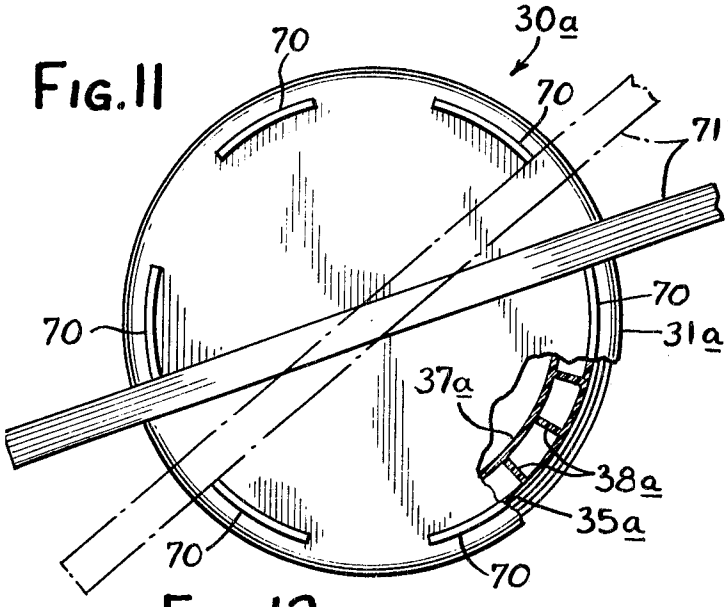


FIG. 16

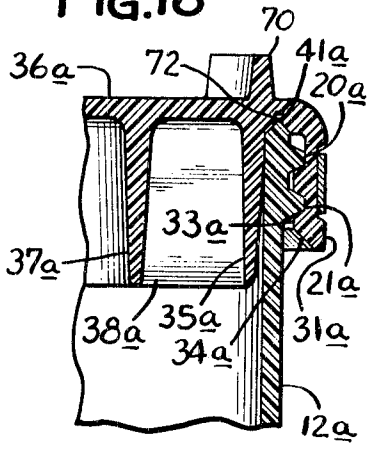


FIG. 12

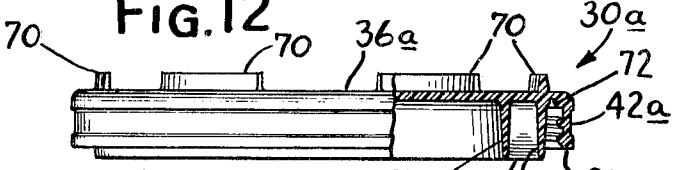
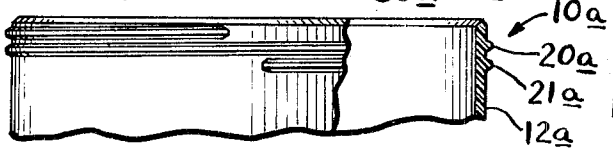


FIG. 13



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3,510,023

PLASTIC CONTAINER AND LID THEREFOR

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Int. Cl. B65d 93/10
U.S. Cl. 220—60 18 Claims

ABSTRACT OF THE DISCLOSURE

A plastic container and lid, each of unitary construction and formed at least in part of self-supporting plastic material. The sidewall of the container forms at least one circumferential rib on the outer surface thereof adjacent the upper end, and the lid includes a depending peripheral skirt the inner surface of which has a portion complementary to the rib on the container for locking the lid and container together. The lid may be snapped down over the container rib, or it may be threaded into engagement therewith. A laterally projecting tab may be provided on the lid to facilitate removal. The container bottom and the lid are dimensioned to permit stacking with secure nesting of the bottom of one container in the lid of another.

The present invention relates generally to containers and, more particularly, to open-head containers with removable lids, of the type commonly used in transporting and/or storing liquid, semi-liquid, pulverized, granular or other substances.

The development of self-supporting plastic shipping containers has given rise to the problem of affixing a removable plastic lid to an open-head plastic container in a manner which will maintain the liquid-tight integrity of the container when subjected to the usual hazards of shipping and handling filled containers. This is a problem not only with liquids, but also with semi-liquid of finely pulverized or granular materials. A number of solutions to this problem have been proposed heretofore, but they have not yet been completely satisfactory, as evidenced by the fact that a number of plastic containers are still fitted with steel covers using methods similar to those used in affixing steel covers to steel containers.

It is, therefore, a primary object of the present invention to provide an improved plastic container and lid construction that permits both the container and the lid to be made at least in part of self-supporting plastic material, while providing a sealing and locking arrangement between the container and lid which maintains the liquid-tight integrity of the container even when subjected to rigorous shipping, storage and handling conditions.

It is another object of the present invention to provide such an improved plastic container and lid construction which permits the lid to be applied to and removed from the container with great facility.

A further object of the invention is to provide an improved plastic container and lid construction of the type described above which can be economically manufactured at high production rates.

It is an object of one particular aspect of this invention to provide such an improved plastic container and lid construction which facilitates stacking of the filled containers, while providing good drainage from the container lids.

Other objects and advantages of the invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a top plan view of a plastic container and lid embodying the present invention, with a portion of the lid broken away to show the underlying container structure;

FIG. 2 is a side elevation, partially in section, of the lid shown in FIG. 1, removed from the container;

FIG. 3 is a side elevation, partially in section, of the container shown in FIG. 1, with the lid removed;

FIG. 4 is an enlarged fragmentary section of the peripheral portion of the lid shown in section in FIG. 2;

FIG. 5 is an enlarged fragmentary section of the top portion of the container wall shown in section in FIG. 3, with a portion of the lid of FIG. 4 being shown in broken lines to illustrate its position during application thereof;

FIG. 6 is an enlarged fragmentary section of the two elements shown in FIGS. 4 and 5 in their assembled positions;

FIG. 7 is a side elevation, partially in section, of a modified lid adapted for use with the container of FIG. 2;

FIG. 8 is a fragmentary plan view of another modified lid structure;

FIG. 9 is a section taken along line 9—9 in FIG. 8;

FIG. 10 is an enlarged fragmentary section similar to FIG. 6, but showing a further modified container and lid construction embodying the present invention;

FIG. 11 is a top plan view of still another modified plastic container and lid embodying the present invention, with a portion of the lid broken away to show the underlying structure, and illustrating a fastening and removal tool for use with the modified lid;

FIG. 12 is a side elevation, partially in section of the lid shown in FIG. 11, removed from the container;

FIG. 13 is a side elevation, partially in section of the container shown in FIG. 11, with the lid removed;

FIG. 14 is an enlarged fragmentary section of the peripheral portion of the lid shown in FIG. 12;

FIG. 15 is an enlarged fragmentary section of the top portion of the container wall shown in section in FIG. 13; and

FIG. 16 is an enlarged fragmentary section of the two elements shown in FIGS. 14 and 15 in their assembled positions.

While the invention is susceptible of various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular forms disclosed, but, on the contrary, the intention is to cover all modifications, equivalents and alternatives falling within the spirit and scope of the invention as expressed in the appended claims.

Referring now to the drawings, there is shown in FIGS. 1 through 6 an open-head container **10** of unitary construction and formed of self-supporting plastic material. More particularly, the container includes a bottom wall **11** and an integral sidewall **12** extending upwardly therefrom. The particular plastic material from which the container **10** is made is not critical to the present invention, it being understood that the container will be formed of material that is inert with respect to the substances to be stored therein. In the particular embodiment illustrated, a pair of axially spaced reinforcing members **13** are formed as integral parts of the container sidewall **12**, and extend continuously around the circumference thereof. As in the case of the plastic material, the particular configuration of the bottom wall **11** and the main body portion of the sidewall **12** is not critical to the present invention, and may take a variety of different forms.

In accordance with one of the important aspects of the present invention, the container sidewall forms at least one circumferential rib on the outer surface thereof adjacent its upper end, and a lid of unitary construction and formed of self-supporting plastic material is re-

movably affixed to the upper end of the container sidewall via a peripheral skirt extending downwardly past the lower edge of the rib on the container sidewall with the inner surface of the skirt having a portion complementary to the rib so as to mesh therewith. Thus, in the illustrative embodiment, the sidewall **12** of the plastic container **10** forms a pair of integral circumferential ribs **20** and **21**, the upper rib **20** being located on the upper edge of the sidewall and the lower rib **21** being axially spaced a small distance below the upper rib **20** and parallel thereto. The ribs **20**, **21** cooperate with a lid **30**, to be described in more detail below, to provide a liquid-tight, dust-tight closure which is maintained throughout the usual hazards involved in the shipping and handling of such containers.

Referring particularly to FIGS. 1, 2, 4, and 6, the lid **30** is of unitary construction and is formed of self-supporting plastic material. As in the case of the container **10**, the particular material selected is not critical to the present invention, it being understood that it will be inert with respect to the substances to be stored in the container. To permit both the loading of substances into the container **10** and their subsequent complete or partial removal therefrom, the lid **30** is both removable and replaceable and, as will be apparent from the ensuing discussion, the structural features provided by this invention enable the removal and replacement operations to be accomplished with great facility. In the assembled position, as best illustrated in FIG. 6, a skirt **31** on the periphery of the lid extends downwardly past the lower edge of the lower rib **21** on the container sidewall **12**, with the inner surface of the skirt **31** having a portion complementary to the ribs **20**, **21** so as to mesh therewith. More particularly, the inner surface of the skirt **31** forms a first integral circumferential rib **32** designed to fit between the ribs **20** and **21** on the container sidewall, and a second integral circumferential rib **33** designed to fit directly beneath the lower rib **21** in bearing engagement therewith. The engaging surfaces of the cooperating ribs **20**, **21** and **32**, **33**, respectively, are preferably tapered as illustrated so that the ribs are effectively wedged between each other as the skirt and the container sidewall are drawn together by means to be described below.

As the lid **30** is positioned on top of the container **10** and pushed downwardly thereon, a beveled edge **34** on the lower end of the depending skirt **31** engages the rib and cams the resilient skirt **31** outwardly as illustrated in broken lines in FIG. 5. Since relatively little pressure is required to effect this camming action, the lid **30** can be applied to the container **10** quickly and easily. When the lid has been advanced far enough to align the ribs **21**, **22** with the complementary portion of the skirt **31**, the skirt snaps back to its normal vertical position with the ribs **32**, **33** meshing with the container ribs **20**, **21** as illustrated in FIG. 6, thereby locking the lid to the container while also serving as a seal between the container contents and the external environment. In addition to its camming function, the beveled edge **34** provides a grip which can be used to pry the skirt **31** away from the container sidewall **12** to disengage the interlocking ribs **20**, **21** and **32**, **33**.

In keeping with the invention, the unitary plastic lid **30** also forms a circumferentially disposed annular portion **35** which extends from the top of the skirt **31** downwardly along the inner surface of the container sidewall **12** at least as far as the lower edge of the rib **21** on the outer surface of the sidewall. Thus, the annular portion **35** backs up the entire upper portion of the container sidewall **12** on the inner surface thereof opposite the interlocking ribs **20**, **21** and **32**, **33** to prevent the ribs from becoming disengaged due to deflection of the upper portion of the sidewall **12** away from the depending skirt **31**, for example. In the particular embodiment illustrated, the annular portion **35** merges with a flat central wall **36** which covers the open end of the container **10** at the same level as the lower end of the annular portion **35**, thereby holding the annular portion **35** closely adjacent the inner surface of the container wall **12** to provide a relatively rigid and tight container-lid assembly.

To further improve the strength and rigidity of the lid **31**, an integral annulus **37** is spaced inwardly from the annular portion **35** and extending upwardly from the depressed central wall **36**, and a plurality of radial ribs **38** interconnect the annulus **37** with the annular portion **35**. Since the annulus **37** extends continuously around the entire circumference of the lid **30**, and the radial ribs **38** are spaced at regular intervals around the entire circumference, it can be seen that the annular region of the lid **30** adjacent the inner surface of the container wall **12** forms a radially stiff structure to provide firm support for the upper portion of the container sidewall on which the sealing and locking ribs **20**, **21** are formed. Consequently, the ribs **20**, **21** are maintained in tight engagement with the complementary portion of the depending skirt **31** even in the face of sudden impacts such as are encountered during normal shipping and handling of such containers. If desired, the top portion of the skirt **31** may be made thin enough to permit that portion of the skirt to be stretched slightly as the lid is pushed onto the container.

In order to accommodate a sealing gasket between the lid **30** and the container **10** to further enhance the liquid-tight and dust-tight integrity of the container, the top rim **39** of the lid is dimensioned to form a narrow cavity **39'** between the inner surface thereof and the top edge of the container sidewall when the lid is affixed to the container. This cavity receives a gasket **40** which is engaged by a relatively sharp upper edge **41** formed by internal and external bevels on the top edge of the sidewall **12** to insure intimate engagement and deformation of the gasket **40**, as illustrated in FIG. 6. Moreover, since the gasket **40** is disposed above the ribs **32** and **33**, it is retained within the cavity **39'** by the ribs **32**, **33** and the opposed annular portion **35** so that it cannot drop out during handling of the lid. The gasket **40** may be a flow-in cured-in-place gasket or a sponge rubber or hollow tubular gasket preassembled into the gasket cavity formed beneath the rim **39** of the lid **30**.

If desired, the outside surface of the depending skirt **31** may be slightly indented to form a shallow groove **42** for receiving a tensioning and reinforcing ring or strap **43**, as shown in FIG. 6. As the strap **43** is drawn tightly around the circumference of the lid **30** after it has been affixed to the container **10**, it draws the depending skirt **31** and the upper portion of the container sidewall **12** into tight engagement with each other and against the relatively rigid back-up annulus provided by the annular portions **35** and **37** and the interconnecting ribs **38** adjacent the inner surface of the sidewall **12**. The strap **43** may be made of metal or suitable plastic or other materials, and may be fastened by methods which are conventionally used for such strapping in the container art. When a tensioning reinforcing strap **43** is used in conjunction with the present invention, the lid **30** may be modified as illustrated in FIG. 7 (in which portions identical to the lid of FIGS. 1–6 have been represented by identical reference numbers), i.e., by forming a series of vertical slits **44** in the lid skirt so as to provide a discontinuous skirt made up of a series of arcuate segments **45**; this construction renders the skirt more flexible than the continuous skirt illustrated in FIGS. 1 through 6, thereby facilitating application of the lid to the container and also permitting the skirt to be drawn into tighter sealing engagement with the container ribs **20**, **21** during application of the tensioning strap **43**.

A further advantage of the lid configuration of FIGS. 1 through 6 is that it permits a plurality of containers to be securely nested when stacked one on top of the other with the lids in place. As best illustrated in FIG. 3, the container **10** is tapered so that the diameter at the bottom of the sidewall **12** is greater than the diameter at the top. To permit the stacking of such a container

on the lid of another container, the diameters can be dimensioned so that the diameter at the bottom of the container **10** is just slightly smaller than the inside diameter of the lid **30** at the inner surface of the annular portion **35**, so that the bottom of the container will fit down inside the rim **39** and rest on the vertical annulus **37** and the radial ribs **38**. Alternatively, to provide an even more secure nesting effect, the container may be dimensioned to have a bottom diameter slightly smaller than the inside diameter of the lid **30** at the inner surface of the annulus **37**, so that the container will fit down inside the annulus **37**, and rest on the generally flat central wall portion **36**. If a container having a straight vertical side is desired, a slight offset may be formed at the bottom of the container to provide the same bottom diameters described above.

Another possible modification is shown in FIGS. 8 and 9 (in which portions identical to portions shown in FIGS. 1–6 have been represented by identical reference numerals), in which the lid **30** includes a laterally extending tab **50** to facilitate removal of the lid **30** from the container **10**. In the particular embodiment illustrated, a pair of ribs **51** and **52** are formed on both the top and bottom surfaces of the tab **50** near the outer end thereof to facilitate gripping of the tabs. When the outer end of the tab **50** is pulled upwardly, it can be seen that it will not only tend to lift the lid **30** upwardly off the container, but will also tend to pull the skirt **31** away from the container sidewall **12**, thereby disengaging the ribs **32, 33** on the skirt from the complementary ribs **20, 21** on the container.

In a further modification, illustrated in FIG. 10 (in which portions identical to portions shown in FIGS. 1–6 have been represented by identical reference numbers) both the upper portion of the container sidewall **12** and the corresponding annular portion **35** of the lid **30** are formed at a slight angle so that the surfaces **60, 61** will firmly engage each other when the lid is applied to the container, thereby providing a further sealing area. Although the gasket **40** has been retained in this modified construction as shown in FIG. 10, the additional sealing effect provided by the intimate contact between surfaces **60** and **61** may be sufficient to permit the gasket to be eliminated in certain applications, depending upon the nature of the particular substance placed in the container.

Still another modified embodiment of the invention is illustrated in FIGS. 11 through 16, in which elements which are similar (not necessarily identical) to elements previously described have been identified by the same reference numerals with the addition of the distinguishing suffix "*a*." In this particular embodiment, the sealing and locking ribs **20***a* and **21***a* on the container sidewall **12***a* comprise a single continuous helical rib which forms a threaded surface for cooperation with a complementary portion of the inner surface of skirt **31***a*. More particularly, the skirt **31***a* includes a pair of ribs **32***a*, **33***a* which comprise different portions of a single continuous helical rib to form the desired threaded connections. In order to apply the lid **30***a* to the container **10***a*, it is simply threaded downwardly thereover until the upper edge **41***a* of the container sidewall abuts the inside surface of the lid, as illustrated in FIG. 16. To facilitate the application of the lid, as well as the removal thereof, a series of diametrically opposed upstanding lugs **70** are formed on the top of the lid so that a rigid bar or other tool **71** may be inserted therebetween, as illustrated in FIG. 11, and turned clockwise or counterclockwise to turn the lid onto or off, respectively, the container **10***a*. To provide a tight seal between the lid and the container, a circumferential groove **72** is formed in the lower surface of the lid directly over the beveled upper edge of the container sidewall so the relatively sharp upper edge of the container is wedged into the groove **72** when the lid is threaded onto the container.

In accordance with another aspect of this particular embodiment of the invention illustrated in FIGS. 11 through 16, the annular portions **35***a* and **37***a*, as well as the interconnecting ribs **38***a*, are formed on the under side of the central wall **36***a* of the lid. This provides a greater available volume inside the container, and yet a relatively rigid structure is still provided directly adjacent the inside surface of the top portion of the container wall **12***a*. Moreover, the lugs **70** may be dimensioned to permit the stacking of two or more containers, i.e., with the bottom of one container resting inside the lugs **70** on the lid of another container. This construction also permits good drainage from the top of the lid **30***a*, due to the intermittent or discontinuous nature of the series of lugs **70**.

While the invention has been described with particular reference to certain specific embodiments which have been described in some detail, further modifications and alternatives will be apparent to those skilled in the art from the foregoing description. For example, the interlocking ribs on both the lid and the container could be made discontinuous with the spaces between the rib segments on the container being wide enough to pass the rib segments on the lid without deflecting the lid skirt. Thus, the lid and the container could be assembled by pushing the lid downwardly until the ribs thereon were positioned between the ribs of the container, and then twisting the lid to align the ribs of the lid and container with each other and thereby lock the lid in place. This modification can be employed with either the straight circumferential ribs of FIGS. 1 through 10, or the helical thread-forming ribs of FIGS. 11 through 16.

As can be seen from the foregoing detailed description, this invention provides an improved plastic container and lid construction that permits both the container and the lid to be made entirely of self-supporting plastic material, and with each having a unitary construction which can be economically formed in a single molding operation, for example. The sealing and locking arrangement provided by the invention maintain the liquid-tight and dust-tight integrity of the container even when subjected to rigorous shipping, storage and handling conditions, such as sudden impacts and the like. Moreover, the lid can be applied to and removed from the container with great facility, and is replaceable so that the contents of the contanier can be enclosed between withdrawals. Furthermore, certain embodiments of the invention described herein greatly facilitate stacking of the filled containers with secure nesting, while providing good drainage from the container lids.

We claim as our invention:

1. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidewall forming at least one circumferential rib on the outer surface thereof, and a lid of unitary construction and formed of self-supporting plastic material, said lid being removably affixed to the upper end of said sidewall via a resilent peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, the lower portion of said skirt and said rib being adapted to cooperate with each other to deflect said skirt away from said rib as said lid is advanced downwardly over said sidewall until said complementary portion of said skirt is aligned with said rib whereupon said skirt returns to its normal position in meshing engagement with said rib, the central portion of said lid forming a laterally rigid supporting surface closely adjacent the inner surface of said sidewall opposite said skirt on the outer surface thereof to prevent flexing movement of said sidewall inwardly away from said skirt.

2. A container as set forth in claim 1 wherein said central portion of said lid includes an integral circumferentially disposed annular portion extending from the top of said sidewall downwardly along and closely adjacent to the inner surface thereof at least as far as the level of said rib on the outer surface of said sidewall.

3. A container as set forth in claim 2 wherein said annular portion and the adjacent portion of the inner surface of said sidewall are both tapered inwardly from the top edge of said sidewall.

4. A plastic container comprising the combination of a container of unitary construction and formed of a self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidewall forming at least one circumferential rib on the outer surface thereof adjacent the upper end thereof; a lid of unitary construction and formed of self-supporting plastic material, said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, the lower portion of said skirt and said rib being adapted to cooperate with each other to deflect said skirt away from said rib as said lid is advanced downwardly over said sidewall until said complementary portion of said skirt is aligned with said rib whereupon said skirt returns to its normal position in meshing engagement with said rib, the central portion of said lid forming a laterally rigid supporting surface closely adjacent the inner surface of said sidewall opposite said skirt on the outer surface thereof to prevent flexing movement of said sidewall inwardly away from said skirt, said skirt forming a groove extending circumferentially around the outer surface thereof; and a clamping ring disposed within said groove and extending circumferentially around said lid to clamp said lid in place upon said container.

5. A container as set forth in claim 1 wherein the entire central portion of said lid within said sidewall is disposed below the upper edge of said sidewall when said lid is affixed to said container, with an annular portion of said lid interconnecting said skirt and said central portion extending along and closely adjacent to the inner surface of said sidewall.

6. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidawall forming at least one circumferential rib on the outer surface thereof adjacent the upper end thereof, and a lid of unitary construction and formed of self-supporting plastic material, said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, the lower portion of said skirt and said rib being adapted to cooperate with each other to deflect said skirt away from said rib as said lid is advanced downwardly over said sidewall until said complementary portion of said skirt is aligned with said rib whereupon said skirt returns to its normal position in meshing engagement with said rib, the entire central portion of said lid within said sidewall being disposed below the upper edge of said sidewall, with an annular portion of said lid interconnecting said skirt and said central portion extending along and closely adjacent to the inner surface of said sidewall, said lid including an integral annulus spaced inwardly from said annular interconnecting portion and extending upwardly from said central portion, and a plurality of radial ribs interconnecting said annulus and said annular interconnecting portion.

7. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidewall forming a first integral rib on the upper periphery thereof and a second integral rib spaced below said first rib, and a lid of unitary construction and formed of self-supporting plastic material, said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said second integral rib on the container sidewall, said skirt forming a first integral rib adapted to fit between the first and second ribs on said sidewall, and a second integral rib adapted to fit directly beneath said second rib on said sidewall, the lower portion of said skirt and said ribs on said sidewall being adapted to cooperate with each other to deflect said skirt away from said sidewall ribs as said lid is advanced downwardly over said sidewall until said complementary portions of said skirt are aligned with said sidewall ribs whereupon said skirt returns to its normal position in meshing engagement with said sidewall ribs.

8. A container as set forth in claim 7 wherein the cooperating surfaces of said ribs are all complementally tapered so that said surfaces are drawn into tighter engagement with each other in response to movement of said skirt and said sidewall relatively toward each other.

9. A container as set forth in claim 1 wherein said lid includes an integral tab projecting laterally from said skirt to facilitate removal of said lid from said container.

10. A container as set forth in claim 1 wherein said lid includes a sealing gasket disposed on the lower surface of the lid adjacent the upper end of said peripheral skirt for engagement with the upper edge of the container sidewall, said upper edge being beveled to form a relatively sharp edge for intimate engagement with and deformation of said gasket to provide a tight seal between said lid and said container.

11. A container as set forth in claim 2 wherein said lid includes a sealing gasket disposed on the lower surface of said lid above said complementary portion of said skirt so that the gasket is retained in the upper portion of the cavity between said skirt and said annular portion of said lid for engagement with the upper end of the container sidewall.

12. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidewall forming at least one circumferential rib on the outer surface thereof adjacent the upper end thereof, and a lid of unitary construction and formed of self-supporting plastic material, said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, said lid also forming a circumferentially disposed annular portion extending from the top of said sidewall downwardly along and closely adjacent to the inner surface thereof at least as far as the level of said rib on the outer surface of said sidewall, the central portion of said lid forming a laterally rigid support for said annular portion to prevent flexing movement of said sidewall inwardly away from said skirt.

13. A plastic container as set forth in claim 12 wherein said rib on the container sidewall forms a threaded surface for cooperation with a complementally threaded surface on said skirt.

14. A plastic container as set forth in claim 13 wherein said lid also forms at least one pair of diametrically opposed lugs extending upwardly from said lid above the upper edge of said sidewall.

15. A container as set forth in claim 13 wherein said lid also forms a circumferential groove in the lower surface

thereof between said peripheral skirt and said annular portion, and the upper edge of the container sidewall is beveled to form a relatively sharp edge adapted to register with said groove when the lid is threaded onto the container to provide a tight seal between said lid and said container.

16. A plastic container as set forth in claim 12 wherein said lid also forms a circumferentially disposed annulus spaced radially inwardly from said annular portion and extending downwardly from said lid within said container to reinforce the central portion of said lid.

17. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, and a lid of unitary construction and formed of self-supporting plastic material, said lid forming a sealing surface in sealing engagement with the top edge of said container sidewall, said container sidewall forming at least one circumferential rib on the outer surface thereof and spaced a substantial distance below the top edge of said sidewall, and said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, the lower portion of said skirt and said rib being adapted to cooperate with each other to deflect said skirt away from said rib as said lid is advanced downwardly over said sidewall until said complementary portion of said skirt is aligned with said rib whereupon said skirt returns to its normal position in meshing engagement with said rib.

18. A plastic container comprising the combination of a container of unitary construction and formed of self-supporting plastic material, said container having a bottom wall and an integral sidewall extending upwardly therefrom, said sidewall forming at least one circumferential rib on the outer surface thereof adjacent the upper end thereof, and a lid of unitary construction and formed of self-supporting plastic material, said lid having a central portion which is reinforced to provide flexural rigidity in the direction of the longitudinal axis of said container, said lid being removably affixed to the upper end of said sidewall via a resilient peripheral skirt extending downwardly past the lower edge of said rib on the container sidewall with the inner surface of said skirt having a portion complementary to said rib so as to mesh therewith, the lower portion of said skirt and said rib being adapted to cooperate with each other to deflect said skirt away from said rib as said lid is advanced downwardly over said sidewall until said complementary portion of said skirt is aligned with said rib whereupon said skirt returns to its normal position in meshing engagement with said rib.

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