

PATENT SPECIFICATION

(11)

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DRAWINGS ATTACHED

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- (21) Application No. 20861/71 (22) Filed 19 April 1971
 (31) Convention Application No. 8227 (32) Filed 3 Feb. 1970 in
 (33) United States of America (US)
 (44) Complete Specification published 16 May 1973
 (51) International Classification B65D 1/45 51/08
 (52) Index at acceptance

B8D 1A4A 1B1 2B 3A 7PY
 B8T 4A 9X



(54) AN IMPROVED CANNISTER

(71) We, DART INDUSTRIES INC., a Corporation organised and existing under the Laws of the State of Delaware, United States of America, of 8480 Beverly Boulevard, Los Angeles, State of California, 90054, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to receptacles and covers therefor, formed of a relatively rigid yet deformable and resilient material. More specifically the invention relates to a receptacle having an integral and rigidifying framework that is constructed to prevent undue distortion due to the content loads, to maintain a hermetic seal between the cover and the body of the receptacle and yet to enable a user to easily grasp the cover for removal from the receptacle.

A main feature of the invention resides in the provision of a receptacle and cover capable of use for safely storing food and other contents, wherein the receptacle is provided with hand grasping elements that are also suitably shaped to permit finger and hand contact with overlying portions of the cover.

Another feature of the invention resides in the provision of a receptacle with a cover of similar perimetric shape wherein the cover has an inverted substantially U-shaped sealing cover of the general structure shown in U.S. Patent No. 2,487,400.

A further feature of this invention resides in the provision of a reinforced receptacle and removable hermetically-sealable cover particularly adapted to hold large-sized, heavy and large quantities of foodstuffs or other materials therewithin for maintenance of freshness. The reinforcement provides support especially to the receptacle side wall or walls, thus freeing same from any appreciable distortion principally as a result of side loads.

The invention provides an open ended receptacle of plastics material for the storage of foodstuffs or similar substances, which

[Price 25p]

receptacle comprises a bottom and one or more side walls integral therewith and with each other if there is a plurality of such walls, the wall or walls extending upwardly from the bottom to a rim, a peripheral flange protruding outwardly from the external surface of the wall or walls and integral therewith, which flange is positioned around the entire periphery of the receptacle adjacent the rim so as to be in juxtaposition with a cover when such cover is placed in sealing relationship on the rim and includes a plurality of recessed areas which are substantially uniformly spaced around the peripheral extent thereof and are inwardly directed to points adjacent to but spaced from the wall or walls, non-recessed areas of the flange protruding to provide a handle for the receptacle, overlying portions of the cover when such cover is placed on the receptacle being exposed through the recessed areas thereby facilitating the easy removal of the cover by the application of upwardly directed force to the exposed portions thereof.

It is preferred that there is a single continuous side wall of a generally circular cross-section that is tapered slightly from top to bottom.

Preferably there are more than two of said recessed areas.

The invention also provides a combination of a cover, and a receptacle as described in the three preceding paragraphs, wherein said flange extends outwardly to such an extent that when the receptacle is placed on its side on a substantially horizontal surface three point contact between the surface and two of the non-recessed areas and a point on the sidewall tends to stabilize the receptacle and prevent its rolling across the surface.

A specific embodiment of the invention and a modification thereof will now be described by way of example with reference to the accompanying drawings in which:—

Figure 1 is an exploded side view of a receptacle and cover, the receptacle being partly broken away to illustrate better some constructional features,

Figure 2 is a bottom view of such a receptacle with the cover in place thereon.

Figure 3 is a top view of the receptacle with the cover removed, and,

Figure 4 is a partial bottom view of another embodiment of the receptacle shown in Figures 1 to 3.

In accordance with the preferred embodiment shown, numeral 10 indicates generally the receptacle or container and cover. Similarly, numerals 12 and 14 designate the cover and the receptacle itself, respectively.

As can further be seen from Figure 1, the receptacle 14 is formed of a curvilinear side wall 16 that is slightly tapered from an integral bottom wall 18 to the open-end 20 thereof. This open-end of the receptacle is supported by an integral rigidifying peripheral flange 22 that protrudes outwardly from side wall 16 at a point closely adjacent the uppermost edge thereof. As indicated, flange 22 is intended to add rigidity to the overall structure and to provide a handle means for the receptacle. It should also be apparent that to provide such support, the flange 22 must necessarily be placed immediately adjacent the open-end of the receptacle and that when the receptacle is sealed, the overlying cover elements will therefore be in close association with that flange.

The cover 12 for the container is of a circular shape also and has a top wall 26 with an elevated and inverted peripheral groove generally indicated by numeral 27 and consisting of an inner wall 28, an outer wall 29, a top connecting wall 30 and an outwardly extending flange 31. Flange 31 at its outer edge may have a finger-engaging dependant rib (not shown).

The inverted groove indicated generally by numeral 27 is rounded and follows the rounded contour of the rim 24. This assists both in effecting a hermetic seal between the inverted groove 27 and rim 24 for easy disconnection from the container by grasping flange 31 at the underside as shown in Figure 2.

Rigidification of the receptacle 14 by the flange 22 becomes increasingly more important if the closure or cover 12 is constructed primarily for internal sealing. If such is the case and the receptacle is per chance stored on its side, then the pressure loading differential created by the contents can tend to create distortions to side walls 16 and thereby to break the seal between cover 12 and receptacle 14. This may result in spillage of the receptacle contents. Therefore, it becomes important to reinforce the wide mouth opening of the receptacle with the flange 22 as is shown.

It should be obvious, however, that other varied cover constructions may be equally effective in sealing containers of this example.

Again referring to Figures 1 and 3 and in particular to flange 22, it is most desirable to provide such a flange with an outer diameter that is equal to or exceeds the outermost diameter of the cover member. Employing this type of construction tends to protect the cover from some disastrous removal due to protrusion of various cover elements. In a typical situation, such protruding elements might become unintentionally engaged with other containers, shelves, etc., in such manner to dislodge the cover.

This designed relationship (i.e., flange outside diameter being equal to or greater than maximum cover outside diameter, and the close association between cover and flange), however, presents an additional problem with respect to cover removal. To alleviate this problem, there are a plurality of recessed areas or cutout portions 32 which are uniformly positioned around the flange 22 and which are inwardly directed to points adjacent to but spaced from the wall 16. These recesses effectively expose overlying portions of the cover member 12 so that they are easily engageable with the fingers. Note in particular, however, that despite this exposure, the cover 12 is protected by the protruding portions of flange 22 from unintentional engagement with miscellaneous items or objects.

As indicated above, in some instances it may be desirable to extend the non-recessed protruding portions of flange 22 beyond the outermost peripheral extension of cover 12 (Figure 4). These flange extensions will stabilize the receptacle if it is stored or placed on its side even in the sealed condition, i.e., with cover 12 in place. Note that the dotted line 34 drawn between the adjacent corners 36 of these extensions lies outside the peripheral extension of cover 12. Therefore, a covered receptacle of this construction (Figure 4) will have a three-point stance if rested on its side. Accordingly, the receptacle shown is thereby stabilized in that position and will not roll freely as it might if it had an effectively continuous circular configuration at both its top and bottom ends.

This construction is, however, provided with recesses 32 such that a portion of cover 12 is exposed, yet protected, when the receptacle is viewed from the bottom. In a similar manner to the embodiment shown in Figures 1 to 3, the recesses 32 expose the cover 12 at points close to side wall 16 and rim 24. This enables a user to apply upward pressure virtually directly beneath outer wall 29 of the cover. In so doing, the moment arm effect or bending moment applied to that wall is minimized and a virtually straight upward lift-off may be attained.

It should be apparent that this facilitates

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cover removal, in that binding between the rim 24 and inverted groove 27 will be kept to a minimum so long as removal forces are applied upwardly to flange 31 at wall 29.

5 Thus, there is here disclosed a new receptacle construction which may be formed by moulding to give a rigid structure (by compression, injection or other means) using polyethylene or blends of polyethylenes, polypropylene or other materials having similar physical characteristics.

WHAT WE CLAIM IS:—

1. An open ended receptacle of plastics material for the storage of foodstuffs or similar substances, which receptacle comprises a bottom and one or more side walls integral therewith and with each other if there is a plurality of such walls, the wall or walls extending upwardly from the bottom to a rim, a peripheral flange protruding outwardly from the external surface of the wall or walls and integral therewith, which flange is positioned around the entire periphery of the receptacle adjacent the rim so as to be in juxtaposition with a cover when such cover is placed in sealing relationship on the rim and includes a plurality of recessed areas which are substantially uniformly spaced around the peripheral extent thereof and are inwardly directed to points adjacent to but spaced from the wall or walls, non-recessed areas of the flange protruding to provide a handle for the receptacle, overlying portions of the cover when

such cover is placed on the receptacle being exposed through the recessed areas thereby facilitating the easy removal of the cover by the application of upwardly directed force to the exposed portions thereof.

2. A receptacle as claimed in claim 1, wherein there is a single continuous side wall of a generally circular cross-section that is tapered slightly from top to bottom.

3. A receptacle as claimed in claim 1 or claim 2, wherein there are more than two of said recessed areas.

4. A combination of a cover, and a receptacle as claimed in any one of the preceding claims, wherein said flange extends outwardly to such an extent that when the receptacle is placed on its side on a substantially horizontal surface three point contact between the surface and two of the non-recessed areas and a point on the sidewall tends to stabilize the receptacle and prevent its rolling across the surface.

5. A receptacle substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

6. A combination of a receptacle and a cover substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

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