

- 1 -

Improvements in or relating to a container

THE PRESENT INVENTION relates to a container.

Containers with covers to hermetically seal the container have been in use for some time. Containers and covers made of polypropylene, polyethylene or other locally deformable yet resilient compositions have proven to be excellent for use in such containers.

Typically, the covers of such containers are installed by placing the cover over the container, pressing firmly, and working the edges of the cover over the rim of the container into a sealed position. However, when initially pressing the cover into position, the cover may tend to shift slightly one way or the other. When the shape of the container rim is round, this does not present a problem because the position of the cover relative to the container is not critical. However, with container rims of other shapes, such as square or rectangular, misalignment of the cover relative to the container can present a problem. For example, a misaligned cover can cause the container to warp when the cover is in place or may make it impossible to completely install the cover. A misaligned cover can also affect the hermetic seal between the cover and the container.

It is an object of the invention to provide improved hermetically sealable containers and covers.

Accordingly, the invention provides a hermetically sealable container having a wall structure and a bottom wall at one end of said wall structure; said wall structure including at least two sidewall portions joined by at least two curved wall portions, a sealing rim positioned at the end of the container opposite to the bottom wall; a cover having a central portion and a sealing member positioned about said central portion adapted to mate with said sealing rim; and alignment means on said cover and said sidewall

structure comprising at least one slot and at least one tab, one of which is positioned on said sealing member and the other of which is positioned on said wall structure, said tab and slot co-operating to align the sealing member with respect to the sealing rim such that the cover can subsequently be properly fitted onto the container.

Preferably, said sidewall structure includes at least one outwardly extending flange, and said alignment means is positioned in said outwardly extending flange and said sealing member. For example said alignment means may comprise at least one slot and at least one tab, one of which is positioned on said sealing member and the other of which is positioned in said flange.

Desirably, said alignment means is positioned proximate one of said curved wall portions.

Thus, the present invention provides alignment means between the cover and the container so that when pressed into position the cover is properly aligned. More specifically, a tab and slot arrangement is provided on the cover and container so that proper alignment of the cover is assured.

In order that the invention may be more readily understood, and so that further features thereof may be appreciated, embodiments of the invention will now be described, by way of example, and with reference to the accompanying drawings, in which:

FIGURE 1 is a top perspective view of a container of the invention with its cover in the installed position;

FIGURE 2 is an exploded perspective view of the container and cover shown in Figure 1;

FIGURE 3 is a top plan view of one corner of the container taken generally along line 3-3 of Figure 2;

3

FIGURE 4 is a side elevational view of one corner of the cover taken along line 4-4 of Figure 2;

5 FIGURE 5 is a cross-sectional view of one corner of the container and cover taken along line 5-5 of Figure 2;

14

4

FIGURE 6 is a cross-sectional view of one corner of the container with the cover in the installed position taken along line 6-6 of Figure 1;

FIGURE 7 is a cross-sectional view of one side wall of the container with the cover in the installed position taken along line 7-7 of Figure 1;

FIGURE 8 is a partial perspective view of the container of Figure 1 showing one corner of the cover being positioned on the rim of the container;

FIGURE 9 is a top perspective view of another container of the invention, with its cover in the installed position;

FIGURE 10 is an exploded perspective view of the container and cover shown in Figure 9;

FIGURE 11 is a top perspective view of a prior art container with the top misaligned such that the container is warped; and

FIGURE 12 is an end view of the prior art container shown in Figure 11.

The Figures, and in particular Figures 1, 2, 9 and 10, illustrate a container 10 and a cover 50. The container 10 includes a wall structure generally identified by numeral 12, having oppositely facing sidewall portions 14 joined by curved wall portions 16. A bottom wall 18 is positioned at the lower end of the wall structure 12, the container 10 being open at the other end 22.

A sealing rim 20 is positioned at the open end 22 of the container 10. As can best be seen in Figures 5, 6 and 7, the sealing rim 20 is tapered slightly outwardly relative to the sidewalls 14 and the curved walls 16 and an outwardly extending flange 24 is positioned on the wall structure 12. The flange 24 has an upper surface 26, a lower surface 28 and at least one alignment slot 30. In the embodiments shown in Figures 2 and 10, alignment slots are positioned proximate each curved wall portion 16. It should be noted that the sealing rim 20 and the flange 24 are of greater thickness than

15

5

the wall structure 12 to impart greater rigidity to the open end 22 of the container.

5 The cover 50 includes a substantially planar central portion 52 and a sealing member 54 extending about the periphery of the central portion 52. The sealing member 54 includes a first or inner section 56, a second or outer section 58, connected at one end by a third or top section 60 to form a generally U-shaped groove. A lip 62 having an upper surface 64 and a lower surface 66 is formed at the free end of the outer section 58. The lip 62 has
10 a downwardly extending alignment tab 68 positioned and adapted to mate with the alignment slot 30. As can best be seen in Figure 7 the lower surface 66 of the lip 62 fits snugly against the upper flange surface 26 when the cover 50 is in the installed position, and, as is best shown in Figures 1, 6 and 9, the alignment tab 66 fits snugly into flange slot 30.

15 To place the cover 50 on the container 10 alignment tab 68 must first be positioned in the alignment slot 30. In this regard it should be noted that the cover 50, in particular the sealing member 54 and the alignment tab 68, may be flexible to facilitate placement in slot 30. This is illustrated in
20 Figure 8. Then, with the cover initially properly aligned, by the co-operation of the tab 68 and the slot 30, the sealing member may be pressed into position on the rim 20.

25 In a preferred embodiment, alignment slots 30 are positioned in the flange 24 proximate each curved wall portion 16. This further facilitates proper alignment of the cover 10 since an alignment tab 68 is positioned in each of the slots 30 periodically as the cover 10 is installed. The plurality of alignment tabs 68 and alignment slots 30 facilitates installation since installation can be started at any curved wall portion 16. This also
30 minimizes the need for repositioning of the cover 50 relative to the container 10 as may be required if only a single tab has to be aligned with a single slot. It can be seen that the tab 68 and slot 30 provide an alignment means which co-operate to align the cover sealing member 54 with respect to the container sealing rim 20 such that the cover can be properly fitted
35 onto the container as shown in Figures 1 and 9.

It will be appreciated that the tab and slot arrangement could be reversed, such that the tab or its equivalent is positioned on the flange and the slot or its equivalent is positioned on the sealing member, and that a combination of these two arrangements may be advantageous. It has been found that using the container of the invention, misalignment of the cover, which can cause warping of the container and can affect the hermetic seal between the cover and the container is prevented.

Figures 11 and 12 are illustrative of a prior art container on which the cover is misaligned.

The invention has been found to provide an arrangement in which proper alignment of the cover on a container as it is pressed into a sealed position, is assured.

It has been found that tab and slot arrangement enables proper positioning of a cover with respect to a container prior to pressing it into a sealing position.



(17)

1

CLAIMS

- 5 1. A hermetically sealable container having a wall structure and a bottom wall at one end of said wall structure; said wall structure including at least two sidewall portions joined by at least two curved wall portions, a sealing rim positioned at the end of the container opposite to the bottom wall; a cover having a central portion and a sealing member positioned about said central portion adapted to mate with said sealing rim; and alignment means on said cover and said sidewall structure comprising at least one slot and at least one tab, one of which is positioned on said sealing member and the other of which is positioned on said wall structure, said tab and slot co-operating to align the sealing member with respect to the sealing rim such that the cover can subsequently be properly fitted onto the container.
- 10 2. A container according to claim 1, wherein said at least one slot is positioned on an outwardly extending flange of said wall structure and said at least one tab is positioned on said cover sealing member, said tab being adapted to fit into said slot thereby providing alignment of the sealing member with respect to said sealing rim.
- 15 3. A container according to claim 1 or 2, wherein said alignment means is positioned proximate one of said curved wall portions.
- 20 4. A container according to any one of claims 1 to 3, wherein said alignment means comprises at least one pair of slots on said wall structure and at least one pair of tabs on said cover sealing member, said one pair of slots being positioned opposite each other, said tabs being adapted to fit into said slots thereby positioning the sealing member with respect to the sealing rim such that the cover can be properly fitted onto the container.
- 25 5. A container according to claim 4, wherein one of said pair of slots is positioned proximate one of said curved wall portions and the other one of said pair of slots is positioned proximate another of said curved wall portions.
- 30
- 35

18



8

5 6. A container according to any one of claims 1 to 3, wherein said alignment means comprises a plurality of slots on said wall structure and a plurality of tabs on said cover sealing member, one of said slots being positioned proximate each of said curved wall portions, said tabs being adapted to fit into said slots thereby positioning the sealing member with respect to the sealing rim such that the cover can be properly fitted onto the container.

10 7. A container substantially as herein described with reference to, and as shown in, Figures 1 to 8 of the accompanying drawings.

8. A container substantially as herein described with reference to, and as shown in, Figures 9 and 10 of the accompanying drawings.

15