This invention relates to a container and a closure therefor, particularly a container of the smaller metal can type, formed to receive a closure comprising a pouring spout and cap of a resilient material such as natural polyethylene or the like.

It is the purpose of this invention to form an opening in the metal can such as to provide both a seating, sealing and retaining structure to which the closure spout may be securely seated and clamped in sealing relation therewith, and in a simple and inexpensive convenient manner.

The feature of this invention, therefore, resides in forming upon one face of the metal can, and integral therewith, an upstanding annular neck in which there is formed and provided a radially inwardly extending annular seat. The seat is upwardly faced and concave in cross section, being a continuation of the upper edge of the neck, for receiving a corresponding base of the closure. The base of the closure is convex in cross section and of slightly greater diameter than the seat of the neck, to be partially seated and centered thereby. The base of the closure is then pressed and sealed therein by an annular clamping ring, the clamping ring embracing the base of the closure and the neck of the can to force them downwardly and inwardly under compression to effect an interlocking thereof.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

Fig. 1 is a central vertical section through a portion of a metal can or similar container diametrically of an opening formed therein.

Fig. 2 is a central vertical section through a sealing closure spout to be secured in sealing relation with said can as a closure for said opening.

Fig. 3 is a clamping ring for interlocking the closure spout in sealing relation to the can.

Fig. 4 is a cross sectional view of the closure spout interlocked with the can about the opening therein.

In the drawings there is shown a metal can or container having an annular opening. Said opening is surrounded by an upstanding neck terminating in an integrally formed annular seat. Said seat is concave in cross section, being formed integral with the neck to extend radially inwardly thereof adjacent its upper edge.

The closure for the opening of said can is shown herein in the form of a generally cylindrical spout which may be provided with a cutaway end and formed with external screw threads for receiving a removable cap. Said closure spout is preferably formed of a compressible material such as natural polyethylene and is formed at its base portion with a lateral extending flange. The lower portion of said flange and closure is formed with a base offset inwardly and of a convex contour in cross section to mate with and seat in the seat of the neck, said base being slightly larger than said seat so that the material of the base may be compressed in tight sealing contact with the surface of the seat. Surrounding the flange and spaced from the base there is a downward extending lip portion formed to embrace the neck of the can when the base is seated in the seat.

For clamping the closure spout to the neck of the can there is provided a clamping ring formed with an inwardly extending flange adapted to surround the closure spout and be seated upon the flange when said flange and the lip are assembled as a closure unit ready to be mounted upon the neck of the can. The closure unit may then be conveniently seated upon the neck of the can and the clamping ring radially compressed by a suitable tool against the neck, forcing the lower portion of the neck inwardly and including downward pressure on the flange to compress the base within the seat. By reason of the undercut interlocking relation between the clamping ring and neck, the closure spout is not only firmly and permanently interlocked therein but its slightly larger base is engaged into sealing relation with the seat wherein the resulting bead is crimped into the neck and the extending lip portion. The seating effect holds the spout in the ring, strengthens the edge, and makes it easier to roll downwardly in effective clamping relation with the neck of the container.

After the closure unit has been secured about the opening of the can and it is desired to discharge the contents therefrom, the screw cap is removed and the cut away end or diaphragm of the closure is severed about its periphery by a sharp tool, such as a knife. This may be readily accomplished by reason of the fact that the material of which the closure is made is such as natural polyethylene which lends itself to cutting by a sharp instrument. Thereupon the closure is in the form of a pouring spout through which the contents of the can may be discharged.

The invention claimed is:

1. A container having an annular opening therein surrounded by an upstanding substantially cylindrical straight walled neck terminating at its upper edge in an annular seat extending radially inwardly and surrounded by said neck to lie therein and within said opening, said seat being of con cave cross section and faced upwardly from said container, a closure spout of compressible material having a laterally extending flange portion formed with an annular base convex in cross section adapted to be received in said seat to substantially conform thereto, the cross section of said base being slightly greater than that of said seat and terminating in a downwardly extending lip portion adapted to surround said neck, and an annular clamping ring including an inwardly extending flange seatable upon the flange portion of said closure spout terminating in a downwardly extending band closely surrounding and extending beyond the lip portion of said closure spout in compressible relation therewith to force the lower portion of said neck inwardly for interlocking therewith and drawing said base into seating and sealing engagement with said seat.

2. A container having an annular opening therein surrounded by an integrally formed upstanding substantially cylindrical straight walled neck terminating in an annular seat extending radially inwardly of and surround by said neck to lie therein and within said opening, a closure spout having a laterally extending flange portion formed with an annular base adapted to be received in said seat to substantially conform thereto and terminating in a downwardly extending lip portion adapted to surround said neck, and an annular clamping ring seatable upon the flange portion of said closure terminating in a downwardly extending band closely surrounding and extending beyond the lip portion of said closure spout into clamping and interlocking engagement with said neck for de-
forming the lower portion thereof inwardly and drawing and compressing said base into seating and sealing engagement with said seat.

3. A container having an opening therein surrounded by an upstanding substantially cylindrical straight walled and radially deformable neck terminating in a recessed seat formed integral therewith to lie therein and within said opening, a closure of compressible material having a laterally-extending flange formed with the depending base portion adapted to be received in said recessed seat and substantially conforming therewith to be embraced thereby, and a deformable clamping ring sealable on the flange of said closure and extending in closure embracing and engaging relation with the deformable neck of said container, said ring being radially compressed inwardly to force the lower portion of said deformable neck inwardly for drawing and compressing the base portion of said closure into seating and sealing engagement with said recessed seat to interlock said closure therewith.

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