

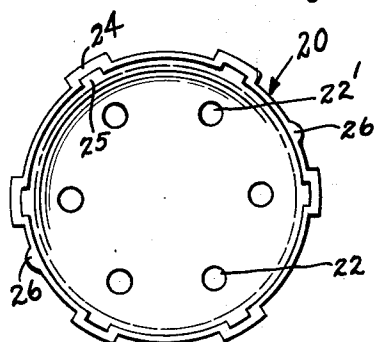
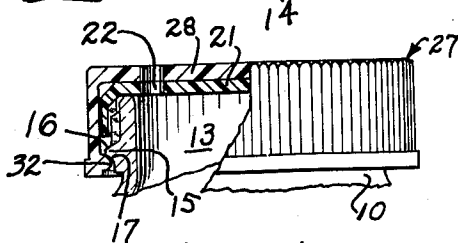
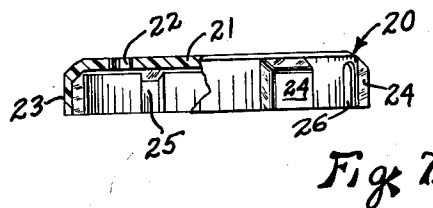
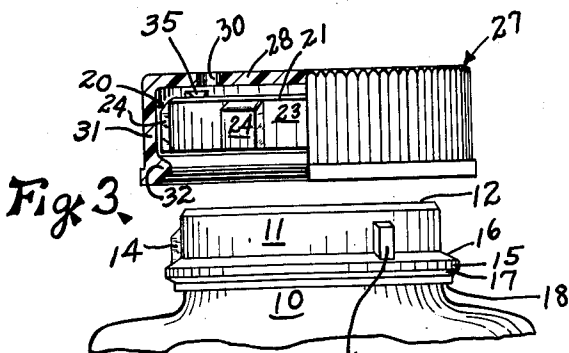
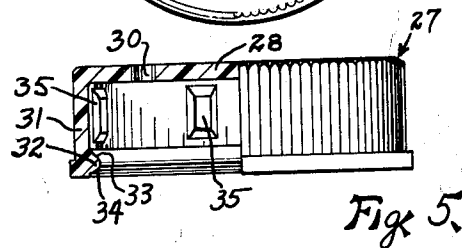
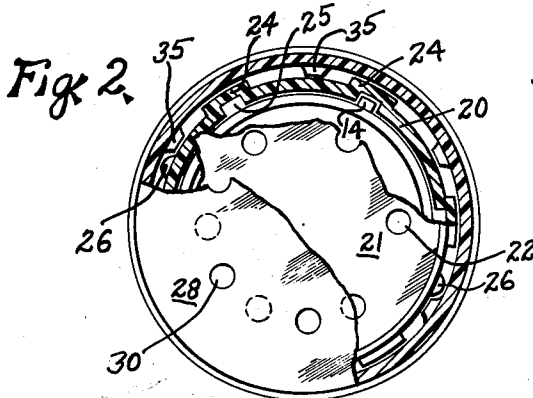
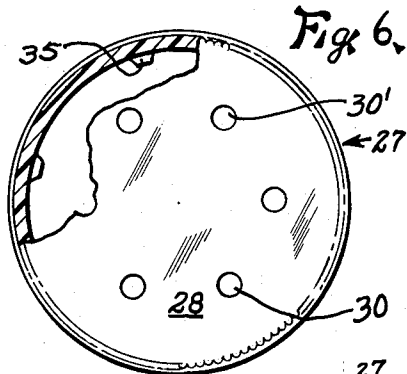
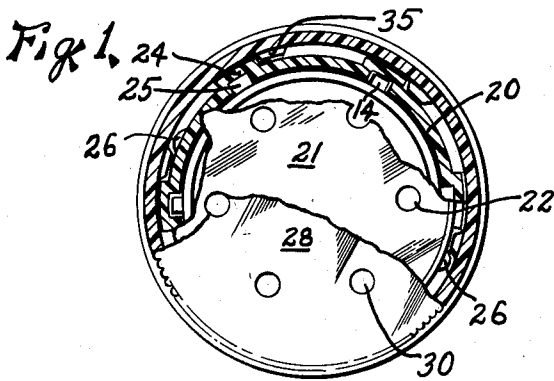
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SHAKER OR SIFTER-TYPE DISPENSERS

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SHAKER OR SIFTER-TYPE DISPENSERS

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This invention relates generally to a shaker or sifter-type assembly and more particularly to sifter or shaker-type dispensers which are readily attachable to and removable from containers and capable not only of dispensing powdered or pelletized products, but also functioning effectively as a closure cap for the containers.

An object of my invention is the provision of a dispenser of the above character in which inner and outer elements may be assembled and the resultant unit or fitment readily affixed to a container mouth forming neck.

A further object of my invention is the provision of novel means insuring ready accurate orientation of the assembled elements after being affixed to a container to the end that it may function effectively both as a dispensing unit and a container sealing means.

Another object of the present invention is to provide a novel dispensing assembly comprising a container, a sifter-type fitment and a closure therefor.

It is a further object of the present invention to provide a dispensing assembly which is simply and readily brought into and out of operating or dispensing position.

An additional object of the present invention is the provision of a container mouth, sifter-type fitment and closure which cooperate to provide a simple but effective dispensing assembly.

These and other objects of my invention will become apparent from a reading of the following detailed description taken in conjunction with the drawings in which:

FIGURE 1 is a plan view of a shaker or sifter-type dispenser partly in section embodying my invention and illustrated in dispensing position;

FIGURE 2 is a plan view partly in section of the dispenser of FIGURE 1 in closed position;

FIGURE 3 is an elevational view partly in section illustrating the shaker-type dispenser of FIGURE 1 removed from a container;

FIGURE 4 is an elevational view partly in section illustrating an assembled shaker or sifter-type dispenser embodying my invention;

FIGURE 5 is an elevational view partly in section of a closure embodying my invention;

FIGURE 6 is a plan view of the closure of FIGURE 5;

FIGURE 7 is an elevational view partly in section of a sifter-type fitment embodying my invention; and

FIGURE 8 is a bottom view of the sifter-type fitment of FIGURE 7.

In the illustrated embodiment of my invention, reference numeral 10 denotes a bottle or jar formed with a cylindrical wall 11 defining a neck having a circular rim 12 extending about and defining a mouth 13. Exteriorly of this wall 11 and in close proximity to the rim 12 are a plurality of lugs 14 which are substantially in alignment with the axis of mouth 13. Lugs 14 are narrow, vertical and radial projections from the plane of wall 11 and may, as illustrated, have a downwardly and outwardly sloping top surface. The number and relative positions of the lugs 14 will be discussed hereinafter.

In close proximity to and below lugs 14 and preferably immediately adjacent thereto is an abutment or annular radial projection 15 which is formed by increasing the outside diameter of wall 11 in a localized annular zone and in such fashion as to provide upwardly of this abutment an upwardly inwardly tapered guiding surface 16 and beneath said abutment 15, a downwardly inwardly

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tapered securing surface 17. The function of this abutment will become apparent hereinafter. An annular rib or downwardly facing shoulder 18 is provided below and in close proximity to securing surface 17 and functions as a surface for engagement with capping grips (not shown) of a conventional capping device (also not shown). The container may be formed of glass or any suitable plastic material such as polyethylene.

The sifter fitment or dispenser element 20 may be formed of rubber or other resilient elastomeric or plastic material, but preferably it is formed of polyethylene. It is molded in a single piece and comprises a relatively flat disk 21 of a diameter slightly greater than the exterior diameter of the rim 12 in order that when assembled this disk may, to some extent, rest upon this rim 12. The disk is provided with a multiplicity of perforations 22 extending therethrough, such perforations being of a diameter dictated by the particular grain size of the condiment or other material to be dispensed.

A depending attaching annular skirt 23 is secured to the outer periphery of disk 21 and has a slightly greater diameter than the wall 11 of the container 10 and is thus adapted to be telescoped over the rim 12 and wall 11. A plurality of outwardly projecting members 24 are provided around the exterior of skirt 23. Members 24 are aligned substantially with the axis of mouth 12 and comprise wide flat sided bodies extending radially from the skirt 23. Each member is formed integrally with a depression 25 interiorly of the skirt 23 which depression is adapted to snugly engage lugs 14 and thereby prevent lateral movement of fitment 20 when the fitment is placed on the container. The members 24 may correspond in number to the lugs 14 and perforations 22 and are radially aligned with said perforations 22. However, as will be discussed further hereinafter, there may also be more, but not fewer members 24 than lugs 14. A multiplicity of ridges 26 aligned with the axis of the mouth 12 are positioned on the exterior of skirt 23. Each ridge 26 is positioned between adjacent members 24 and at least two are provided. More may be provided if desired and their function will be explained hereinafter.

When the sifter fitment 20 is to be applied to container 10 it is placed over rim 12 and rotated until depressions 25 are aligned with lugs 14. The fitment is then forced downwardly over rim 12 and wall 11, thereby inserting lugs 14 into depressions 25 which prevents lateral movement of the sifter fitment 20 with respect to the container mouth 13.

The closure cap 27 may be formed of rubber or other resilient elastomeric or plastic material but preferably it is formed of polyethylene. It is molded in a single piece and comprises a relatively flat circular top panel portion 28 of a diameter slightly greater than the diameter of the flat disk 21 of the fitment 20 so that when assembled the closure 27 will cover the fitment 20. The top panel portion 28 is provided with a multiplicity of perforations 30 which are equal in number to and alignable with the perforations 22 in fitment 20. The diameter of these perforations 30 is also dictated by the particular grain size of the condiment or other product to be dispensed.

An annular depending attaching skirt 31 is formed at the outer periphery of circular top panel portion 28 and is of slightly greater diameter and length than the skirt 23 of fitment 20. It is thus adapted to be telescoped over the fitment 20 and the container mouth 13. The free or lower end of the skirt 31 is provided with an annular internally projecting rib 32 having a downwardly and inwardly tapered surface 33 and an upwardly and inwardly inclined surface 34. The rib 32 is adapted to be forced over abutment 15 when the closure 27 and fitment 20 are placed over the container mouth 13. This

enables closure 27 to be held in snap fit relationship with the container 10 and it is held there by having downward tapered surface 33 resting against the underside of abutment 15 or the downwardly and inwardly tapered surface 17 of the container 10. The rib 32 also serves to retain fitment 20 interiorly of cap 27 in order that the dispenser may be preassembled and hopped without the necessity of prepositioning the apertures as is required by prior art fitments.

The interior of skirt 31 is provided with a plurality of internally projecting lugs 35. The lugs are narrow vertical projections which are substantially aligned with the axis of the closure 27. They are positioned on the skirt 31 and in relation to perforations 30 in such fashion that rotation of the closure 27 on the container 10 will move the lugs 35 around the exterior of the skirt 23 of the fitment 20 until they come into contact with an outwardly projecting member 24. At this point the positioning of the perforations 22 and 30, members 24 and lugs 35 brings the perforations 22 and 30 into alignment and dispensing position.

The lugs 35 are so positioned in relation to perforations 30 that the alignment of the perforations 22 and 30 is possible only by rotation of closure 27 in one direction. Thus a rotation of the closure in the opposite direction moves the perforations 22 and 30 out of alignment and thereby closes the container. This opposite rotation will cause lugs 35 to ride over the ridges 26 positioned between adjacent members 24 on the skirt 23 of the fitment 20. The degree of projection of lugs 35 and the depth of the ridges 26 is such that the closure 27 may readily be rotated over the same, however, the same prevents accidental rotation of the closure 27 thereby insuring that the container remains closed when not in use.

It can readily be seen from the foregoing that this dispensing assembly may be readily assembled by placing fitment 20 into closure 27 and rotating the same on the container rim 12 until lugs 14 on the container wall 11 are brought into registry with the depressions 25 on the interior of the skirt 23 of the fitment 20. Rotation is imparted to the fitment prior to engagement of the lugs 14 and depressions 25 by virtue of the lugs 35 of the closure 27 being in contact with outwardly projecting members 24 of the fitment. After the lugs 14 are engaged by the depressions 25, the fitment cannot be rotated and is thus in a stationary position relative to the container 10 and closure 27. It is also possible to assemble this package by first placing the fitment on the container and thereafter placing the closure 27 over the same.

After the lugs 14 and depressions 25 are brought into registry, the fitment 20 and closure 27 are forced downwardly over the wall 11 of the container 10 until the rib 32 of the closure snaps over the abutment 15 of the container 10 thus preventing vertical movement of the closure 27 or fitment 20. The closure 27 is then rotated to the previously described opened or closed position as desired.

In the illustrated embodiment, the perforations 22' and 30' are positioned at 30 degrees from the vertical and the remaining perforations are positioned at 60 degree increments around a circle. Since the members 24 and depressions 25 are radially aligned with the perforations 22 they will also be positioned at the above described angles but around a somewhat larger circle.

The lugs 35 utilized to align the perforations 22 and 30 must therefore be positioned so that their centers are on radii which are separated from the radii on which the center of any perforation 30 is located by an angle of about 15 degrees. Since ridges or locking lugs 26 cooperate with the members 24 and lugs 35 to limit and retard movement of the closure 27 and to align the perforations 22 and 30 they are positioned along the skirt 23 of the fitment 20 at a distance from opposite members 24 which is substantially equal to the width of lugs 35.

This spacing will prevent accidental misalignment of the perforations when the container is shaken. They also may be positioned relative to the next member 24 to hold the closure in its closed position.

The number of lugs 14, depressions 25, members 24, lugs 35 and perforations 22 and 30 may vary considerably. All that is required is that they be aligned with relation to each other as above described and equally spaced from each other. The number of members 24 and depressions 25 may, for instance, be less than the number of perforations 22 and 30. The same is true for the lugs 35 and ridges 26. All that is required is that there be sufficient lugs 14 on the container wall 11 and depressions 25 on the fitment 20 to prevent lateral movement of the fitment. By equal spacing, the manufacturer by merely inserting the fitment into the closure cap is insured that they will cooperate with each other to produce an effective dispensing assembly.

It will be apparent from the foregoing that I have invented an easily manufactured condiment dispensing assembly that is secure in its closed position against accidental opening but easily opened to its dispensing position and readily held there.

Various modifications will be apparent from the foregoing and may be resorted to within the spirit and scope of the following claims.

I claim:

1. In combination, a container having an annular neck-forming wall defining a mouth, a plurality of radially projecting lugs on said wall, and an annular radial projection on said wall below said lugs for securing a closure cap to said container; a sifter-type fitment comprising a relatively flat disk provided with a multiplicity of perforations therethrough, a depending attaching skirt at the periphery of said disk, a plurality of radially projecting members on the exterior of said skirt, means on the interior of said skirt at each radially projecting member adapted to snugly engage said lugs on said wall, and means on said skirt to retard rotative movement of a closure cap placed thereon; and a closure cap adapted to overlie said fitment and container mouth, comprising a circular panel portion of greater diameter than said fitment, said panel portion being provided with a plurality of perforations alignable with the perforations in said fitment, a depending attaching skirt at the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container and to retain said fitment within said closure cap, and means on the interior of said skirt to limit rotative movement of said cap.

2. In combination, a container having an annular neck-forming wall defining a mouth, said wall having an outer end providing an annular rim, a plurality of radially projecting lugs on said wall below said rim, and an annular radial projection on said wall below said lugs, a sifter-type fitment of resilient material comprising a relatively flat disk of greater diameter than said container rim and provided with a multiplicity of perforations therethrough, a depending attaching skirt at the periphery of said disk, a plurality of radially outwardly projecting members on said skirt, and means on the interior of said skirt and formed integrally with said members, adapted to snugly engage said lugs on said wall; and a closure cap of resilient material adapted to overlie said fitment and container mouth, comprising a circular top panel portion, said panel portion being provided with a plurality of perforations alignable with the perforations in said fitment, a depending attaching skirt at the periphery of said panel portion an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container and to retain the fitment within said closure cap, and a plurality of internally projecting lugs on the interior of said skirt.

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3. A dispensing package comprising a container having an annular wall defining a mouth, an annular rim provided at the outer end of said wall, a plurality of radially projecting lugs on the exterior of said wall below said rim, an annular radial projection on said wall below said lugs, said projection being of greater diameter than said rim, and an annular rib on said wall below said projection of less diameter than said projection; a sifter-type fitment of resilient plastic material comprising a relatively flat disk of greater diameter than said rim and provided with a multiplicity of perforations therethrough, an annular depending attaching skirt at the periphery of said disk, a plurality of radially projecting members on the exterior of said skirt and aligned radially with said perforations, means defining a depression on the interior of said skirt at each member and adapted to snugly engage said lugs on said wall, a plurality of ridges each positioned between adjacent members on said skirt; and a closure cap of resilient plastic material adapted to overlie said fitment and container mouth, comprising a relatively flat circular top panel portion of greater diameter than said fitment, said panel portion provided with a plurality of perforations equal in number to and alignable with said perforations in said fitment, an annular depending attaching skirt at the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall and adapted to secure said cap to said container and to retain said fitment within said closure cap, and a plurality of internally projecting lugs on the interior of said skirt, said lugs adapted to be positioned between adjacent members on said fitment.

4. In combination, a container having an annular wall defining a mouth, an annular rim provided at the outer end of said wall, a plurality of radially projecting lugs on the exterior of said wall below said rim, an annular radial projection on said wall below said lugs, said projection being of greater diameter than said rim, and an annular rib on said wall below said projection; a sifter-type fitment of resilient elastomeric material comprising a flat disk of greater diameter than said rim and provided with a multiplicity of perforations corresponding in number to said lugs, an annular depending attaching skirt at the periphery of said disk, a plurality of radially outwardly projecting members on said skirt and aligned radially with said perforations, the interior of said skirt being provided with means at each member to snugly engage said lugs on said wall, and a plurality of vertically aligned ridges, each positioned between adjacent members on said skirt and adapted to retard rotative movement of a closure cap placed thereon; and a closure cap of resilient elastomeric material adapted to overlie said fitment and container mouth, comprising a relatively flat circular top panel portion of greater diameter than said fitment, said panel portion provided with a series of perforations alignable with and equal in number to the perforations in said fitment, an annular depending attaching skirt at

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the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container, and a plurality of internally projecting lugs on the interior of said skirt cooperable with said members on said fitment to limit rotative movement of said cap and to align said perforations.

5. In combination, a container having an annular wall defining a mouth, an annular rim provided at the outer end of said wall, a plurality of radially projecting lugs on the exterior of said wall below said rim, the axis of which are aligned with the axis of said mouth, an annular radial projection on said wall below said lugs, said projection being of greater diameter than said rim, and the underside of said projection being deformed to provide a downwardly and inwardly projecting shoulder; a sifter-type fitment of resilient plastic material comprising a flat disk of greater diameter than said rim and provided with a multiplicity of perforations therethrough, the perforations corresponding in number to said lugs, an annular depending attaching skirt at the periphery of said disk, a plurality of radially outwardly projecting members on said skirt and aligned radially with said perforations, a multiplicity of depressions on the interior of said skirt and formed integrally with said members, each depression adapted to snugly engage a lug on said wall, and a plurality of ridges parallel to the axis of said mouth and adapted to retard rotative movement of a closure cap placed thereon, each ridge being positioned between adjacent members on said skirt; and a closure cap of resilient plastic material adapted to enclose said fitment and container mouth comprising a relatively flat circular top panel portion of greater diameter than said fitment, said panel portion being provided with a series of perforations equal in number and alignable with said perforations in said fitment, an annular depending attaching skirt at the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container, and a plurality of internally projecting lugs on the interior of said skirt cooperable with said members on said fitment to limit rotative movement of said cap and to align said perforations, and cooperable with said ridges on said fitment to retard rotative movement of said cap.

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