

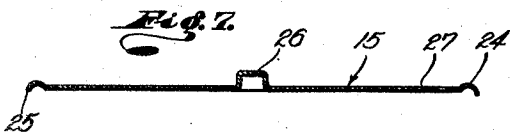
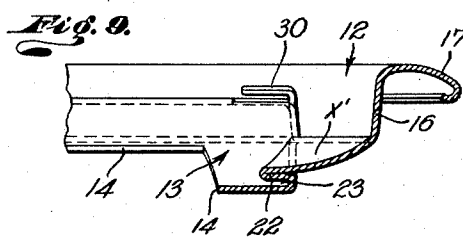
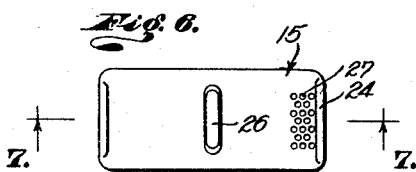
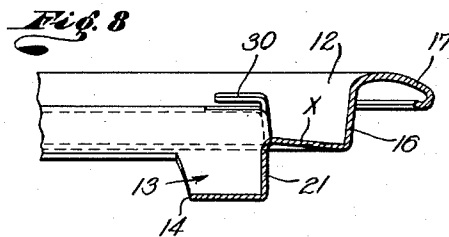
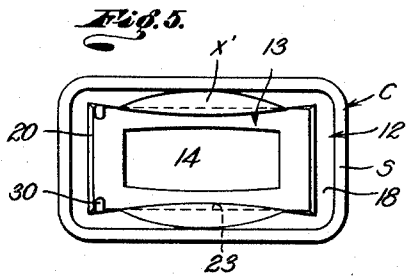
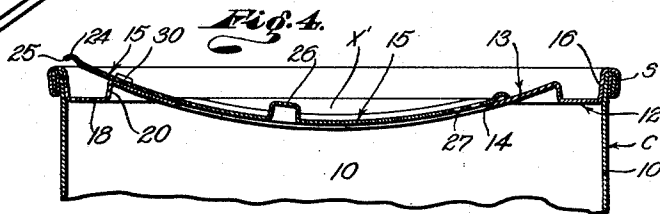
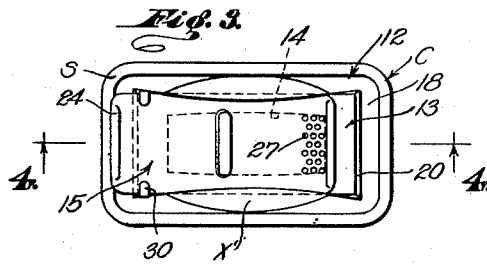
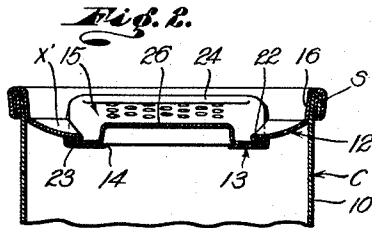
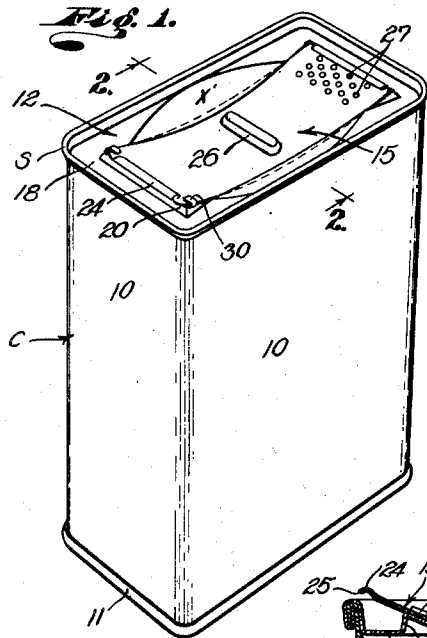
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2,139,116

CLOSURE FOR CONTAINERS

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2,139,116

CLOSURE FOR CONTAINERS

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12 Claims. (Cl. 221-62)

This invention relates to containers and relates more particularly to closure constructions for condiment containers and the like. A general object of this invention is to provide a closure construction of the character referred to that is simple and inexpensive to manufacture and that is practical and convenient in operation.

Another object of this invention is to provide a closure for a container that may be readily conditioned to provide for the sifting of the contents from the container, that may be adjusted to provide an opening of the desired size for the pouring of the contents from the container, and that may be easily conditioned to provide an opening of proper size and shape to receive a teaspoon or the like, whereby the contents may be spooned or poured from the container.

Another object of this invention is to provide a closure construction of the character mentioned embodying a slide type closure shiftable from a closed position to a position to permit sifting of the contents from the container and readily removable to leave an opening for receiving a spoon to allow the contents to be spooned or poured from the container. Containers for spices and the like have been introduced having an opening in one end closed by a plug carrying a slide which may be manipulated to permit sifting of the spices from the container, the plug being bodily removable together with the slide to allow the contents to be spooned or poured through said opening. These prior removable plug sifting closures require a number of dies in their manufacture and numerous assembling operations and therefore are very costly. The closure construction of the present invention involves a simple removable slide directly carried by an end of the container and is much simpler and less expensive to manufacture than the prior plug type sifting closures.

Another object of this invention is to provide a closure construction of the character mentioned in which the slide or sliding closure is carried by a curved seat and is guided by guides to be moved past the usual edge rim or flange of the container end when manipulated, may provide a controlled opening, may be removed and replaced or may be moved to a position to leave a full opening and yet remain attached to the container.

Another object of this invention is to provide a closure construction of the character mentioned that forms or provides a practical sift-tight seal when in the closed position.

A further object of this invention is to provide

a closure construction of the character mentioned in which the closure or slide is removably latched in the closed position by simple means that maintain the closure in tight sealing contact with its seat.

The various objects and features of my invention will be fully understood from the following detailed description of a typical preferred form and application of my invention, throughout which description reference is made to the accompanying drawing, in which:

Fig. 1 is a perspective view of a container embodying a typical preferred form of closure construction provided by the invention. Fig. 2 is an enlarged fragmentary vertical detailed sectional view taken as indicated by line 2-2 on Fig. 1. Fig. 3 is a top or plan view of the closure construction showing the slide or closure in the partially operated position where the contents may be sifted from the container. Fig. 4 is an enlarged fragmentary vertical detailed sectional view taken as indicated by line 4-4 on Fig. 3. Fig. 5 is a view similar to Fig. 3 with the slide or closure removed. Fig. 6 is a plan view of the slide removed from the container end or top. Fig. 7 is an enlarged longitudinal detailed sectional view of the closure as initially constructed, being a view taken as indicated by line 7-7 on Fig. 6. Fig. 8 is an enlarged fragmentary vertical detailed sectional view of the container end or top prior to the formation of the guideways and Fig. 9 is a view similar to Fig. 8 showing the top as finally formed to have the guideways.

The closure construction of the present invention may be embodied in forms for use on containers of various natures and in forms for dispensing or handling material of different characters. In the following detailed description I will describe a typical preferred form of the invention applied to a container of the type used to package or contain spices, etc. It is to be understood that the invention is not to be construed as limited or restricted to the specific form or application of the invention about to be described but that it is to be taken as including any features or modifications that may fall within the scope of the claims.

The typical container C illustrated in the drawing is rectangular in transverse cross section, having flat vertical sides 10. The lower end of the container C is closed by a suitable bottom or end 11. The upper end of the container C is closed by an end or top embodying the closure means of the present invention, which top will be hereinafter described.

The improved closure construction of the present invention includes, generally, an end or top 12 for the container C, a concave seat 13 formed on the top 12 and having an opening 14 adapted to discharge the contents of the container C and adapted to receive a spoon or the like, and a slide or closure 15 shiftable on the seat 13 between a position where it closes the opening 14 and a position where it provides for the sifting of the contents from the container C and removable from the seat 13 to permit pouring and the insertion of a spoon or the like in the opening 14.

The end or top 12 of the container C is the body of the closure construction and is adapted to be applied or secured to the upper edges of the container sides 10 to extend across the upper end of the container. The top 12 is shaped or constructed to fit the container C and to have the seat 13 and the other parts for receiving and guiding the closure 15 before it is secured to the container C. It is to be understood that the top 12 may be designed for application to containers of various natures and may be secured to the container in any desired manner; for example, it may be constructed as a slip-on cover if desired. In the particular case illustrated an upwardly projecting marginal flange 16 is provided on the top 12 and a laterally projecting rim 17 extends outwardly from the flange 16. The flange 16 is adapted to engage within the upper edge portions of the container walls or sides 10. The rim 17 is made to project beyond the container sides 10 when the flange 16 is engaged within the sides. The rim 17 as shown in Fig. 8 is partially curled and is adapted to be further curled or seamed on the sides 10 of the container C. Figs. 8 and 9 of the drawing illustrate the manner in which the rim 17 projects from the flange 16 before the application of the top 12 to the container C and Figs. 1-5, inclusive, show the rim 17 curled onto the container walls or sides 10 to constitute a seam S. The top 12 constructed as just described has its major portion or wall 18 recessed or occupying a plane below the upper end of the container C as defined by the upper edge of the seam S.

The seat 13 is provided to slidably or shiftablely receive the closure 15. The seat 13 is in the nature of a depressed surface or wall portion of the top 12. In the preferred construction the seat 13 is substantially cylindrically curved or concaved with the axis of its curvature extending transversely of the major axis of the dimension of the top 12 and with its greater dimension or major axis extending in the same direction as that of the top 12. The opposite ends of the cylindrically concaved seat 13 occur at walls or shoulders 20 extending upwardly from the major wall 18 of the top 12. The walls or shoulders 20 elevate the opposite end portions of the seat 13 above the adjacent major wall 18. The ends and the longitudinal margins or sides of the seat 13 are spaced inwardly from the adjacent end and side parts of the flange 16. The seat 13 is such that its plane or arc of curvature if extended beyond the shoulders 20 would clear or pass over the seam S in spaced relation thereto. This relationship between the curvature of the seat 13 and the seam S is best illustrated in Fig. 4 of the drawing. The seat 13 as initially formed preferably has its longitudinal sides or extremities defined by substantially vertical walls 21 as illustrated in Fig. 8. The portions X of the major top wall 18 adjacent the walls 21 preferably slope downwardly and outwardly from the walls 21 as

illustrated in Fig. 8. The sloping portions X of the wall 18 preferably terminate at the juncture of the major top wall 18 with the arc of the curved seat 13.

The container end or top 12 is shaped or formed so that guides or guide means are provided at the opposite longitudinal margins or sides of the seat 13 to guide and retain the closure 15. Following the drawing of the top 12 to provide it with the walls 21 and the sloping wall portions X, the wall portions X are depressed or bent downwardly and inwardly to become spherically concaved wall portions X'. During the course of this shaping or forming of the wall portions X' the walls 21 are pleated or folded to have folds 22. The spherically concaved wall portions X' and the folds 22 are best illustrated in Fig. 2 and 9 of the drawing. The folds 22 are spaced above the seat 13 and overhang the edge portions of the seat 13 to provide guideways 23. The undersurfaces of the folds 22 are curved concentrically with the seat 13 so that the guideways 23 are of substantially uniform width or height through their lengths. The folds 22 and the guideways 23 terminate at or adjacent the juncture of the cylindrical plane or arc of the seat 13 with the plane of the major wall portion 18 and their ends are spaced from the shoulders 20.

The opening 14 is provided in the seat 13 to communicate with the interior of the container C and to provide for the sifting, spooning and pouring of the contents from the container. The opening 14 is substantially centrally located in the seat 13, that is, its sides and ends are substantially equally spaced from the adjacent ends and sides of the seat 13. In accordance with the invention the opening 14 is shaped and proportioned to receive a spoon such as a teaspoon and its longitudinal side walls may be slightly curved to better accommodate a spoon.

The closure 15 is in the nature of a slide shiftablely and removably cooperating with the seat 13. The closure 15 is a rectangular member of plated or tinned sheet material or other suitable material having considerable flexibility or resiliency. Prior to its installation on the top 12 the slide or closure 15 may be a flat plate or member as illustrated in Figs. 6 and 7. The slide or closure 15 has straight parallel longitudinal edges. Raised parts or curls 24 extend along the opposite ends of the closure 15. The curls 24 curve upwardly from the upper surface of the closure 15 and then extend downwardly. The lower edges 25 of the curls 24 are preferably below the plane of the lower surface of the closure 15. The curls 24 are preferably spaced inwardly from the corners of the rectangular closure 15 so that the longitudinal edge portions of the closure may be entered in the guide ways 23. A projection 26 is pressed or otherwise formed on the closure 15 to project from its upper side. The projection 26 may be in the nature of an elongate ridge extending transversely of the closure. The projection 26 is adapted to be engaged or pressed against by the user's thumb or fingers to facilitate the shifting, removal and re-arrangement of the closure 15 on its seat 13. The closure 15 is proportioned to completely cover the seat 13 and to have the curls 24 cooperate with the shoulders 20 when in its fully closed position.

In assembling the closure 15 on the top 12 one end of the closure is introduced into the guideways 23 and the closure is forced or pushed through the guideways. During this operation the flat closure 15 is curved or bent to conform

to the guideways 23 and to conform to the seat 13. The resiliency of the closure 15 constructed and assembled as just described, maintains the under side of the end portions of the closure in tight sealing engagement with the seat 13. The edges 25 of the curls 24 projecting downwardly beyond the under side of the closure 15 as just described, are adapted to cooperate with the shoulders 20 to prevent accidental shifting of the closure 15. When the closure 15 is shifted to its fully closed position on the seat 13 the curl 24 on its advancing end snaps over the shoulder 20, making a slight sound to indicate that the closure is in its proper closed position.

A plurality of spaced discharge openings or sifting openings 27 is provided in the closure 15 adjacent one end. The sifting openings 27 are located to be closed by the seat 13 when the closure 15 is in its fully closed position illustrated in Fig. 1 of the drawing. When the closure 15 is shifted to a position such as illustrated in Fig. 4 of the drawing the sifting openings 27 are brought into registration with the opening 14 whereby the contents of the container C may be discharged or sifted from the openings 27. It will be apparent that the closure 15 may be moved to a position where certain of the openings 27 are closed and certain of the openings are in communication with the discharge openings 14. Further, if desired, the closure 15 may be brought to a position where the openings 27 are all in communication with the opening 14 and a portion of the opening 14 is uncovered at one end of the closure to provide for a substantial discharge of the contents from the container.

The invention preferably includes means for stopping and retaining the closure 15 in a fully opened position for immediate reclosing, whereby the closure may be left on the body or top 12 when the closure structure is opened for the pouring or spooning of the contents from the container. This means includes tabs or tongues 30 projecting from the opposite walls 21 adjacent one of the shoulders 20. The tongues 30 may be integral parts of the body or top 12. The opposite ends of the curl 24 on the end of the closure 15 that is adjacent the tongues 30 when the closure is in its closed position are related to the tongues 30 to pass or clear the same when the closure is shifted from the closed position to move the said curl past the tongues. This relationship allows the closure 15 to be removed or completely disengaged from the top 12 when desired and readily reassembled on the seat 13. The curl 24 at the opposite end of the closure 15 is of such length that its end portions are adapted to engage the tongues 30 to limit shifting of the closure 15. When the closure 15 is moved in one direction, for example, to the left in Figs. 1 and 3 of the drawing to completely uncover the opening 14, the curl 24 on its trailing end is engageable with the tongues 30 to limit the movement of the closure and stop the same when in its fully opened position. The tongues 30 overlie the edge portions of the closure 15 to retain the closure with one end portion in cooperation with the seat 13 so that it may be readily shifted back to its closed position. The stop means just described allows the closure 15 to be completely removed from the body or top 12 when moved in one direction and serves to stop and retain the closure 15 in a fully opened position when moved in the other direction.

It is believed that the utility and practicability of the container closure construction provided by

the present invention will be readily understood from the foregoing detailed description. The closure construction constructed and assembled as described above, has its closure 15 normally in the closed position illustrated in Figs. 1 and 2 of the drawing. When in this position the closure 15 extends completely across the opening 14 and covers the seat 13. The closure 15 is warped or bent in conformity to the guideways 23 and its inherent resiliency maintains large end portions of its under surface in effective sealing engagement with the seat 13, thereby providing an airtight seal for the container. In addition to the frictional engagement of the closure 15 with the seat 13 and the guideways 23, the curls 24 cooperate with the shoulders 20 to releasably latch or hold the closure in its fully closed position.

When it is desired to sift material from the container C the closure 15 is slid or shifted a slight extent to bring its openings 27 into communication with the opening 14. The projection 26 may be engaged to effect this shifting of the closure. Figs. 3 and 4 of the drawing illustrate the closure 15 in a position where the sifting openings 27 are in communication with the opening 14. The closure 15 may be adjusted or shifted to partially uncover the opening 14 so that the material in the container may be poured or sifted from the opening 14 alone or simultaneously with the sifting of the material from the openings 27. It will be observed that when the closure 15 is in any of the positions just mentioned the lower edge 25 of one of its curls 24 bears on the seat 13 and this engagement maintains or assists in maintaining the closure in the selected or adjusted position until the closure is deliberately moved. When the closure is returned to its fully closed position a curl 24 snaps over a shoulder 20 to indicate to the user that the closure is fully closed. The curls 24 at the opposite ends of the closure 15 may cooperate with the shoulders 20 to resist accidental or unintentional shifting of the closure in both directions.

When it is desired to introduce a spoon or the like into the container C the closure 15 may be shifted longitudinally in one direction until its edge portions are disengaged from the guideways 23. This, of course, removes or disassociates the closure 15 from the top 12. The closure 15 may be brought to a fully open position to facilitate the spooning or pouring of the contents from the container by moving the closure in the other direction to bring one of its curls 24 in engagement with the tongues 30. This engagement stops the closure in a full open position as described above. In this connection it is to be observed that the curvature of the seat 13 and the closure 15 is such that the closure moves past or over the seam S when removed from the top 12 or when fully opened. With the closure 15 removed or in the fully opened position the opening 14 is fully exposed and a spoon or the like may be conveniently introduced into the container C for the purpose of removing the contents. If the closure 15 is removed it may be easily and quickly re-applied to the top 12 by introducing one end of the closure into the guideways 23 and then moving the closure to its normal closed position.

It is to be noted that the improved closure construction of the present invention involves only two parts, namely, the container end or top 12 and the shiftable closure 15. Both of these parts are simple and inexpensive to manufacture and the closure construction may be assembled

at a minimum of expense and applied to or seamed to a container in the usual manner.

Having described only a typical preferred form and application of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art or fall within the scope of the following claims.

10 Having described my invention, I claim:

1. A cap for a container comprising, a body having a preformed opening of substantial size, a curved concave seat drawn in the body around the opening, guideways on the body at opposite sides of the seat, and an initially flat closure having opposite edges received in the guideways to be curved thereby to conform to the seat and shiftable on the seat to project from either end of the seat to control the opening.

20 2. A closure construction for a container comprising a body to be embodied in the container to form a wall thereof, a curved concave seat on the body having an opening for discharging the contents of the container and rendering said contents accessible by a spoon, a closure slidably cooperating with the seat to control the opening and projectable from the opposite ends of the seat to make the opening freely accessible, and guide means at opposite sides of the seat maintaining the closure in cooperation with the seat and slidably guiding the closure during its movement.

3. A closure construction for a container comprising a body to be applied to the container to form a wall thereof, an upstanding seam flange on the body for securing the body to the container, a curved concave seat on the body having an opening for discharging the contents of the container, a removable initially flat closure for slidably cooperating with the seat to control the opening, and guide means at the opposite sides of the seat cooperating with the closure to flex the same into conformity to the seat and guiding the closure over the said flange when the closure is removed from the seat, said guide means including parts of the body depressed at opposite sides of the seat to provide guide folds for engaging the closure.

4. A closure construction for a container including a body to be applied to the container and having a concave portion forming a seat, there being an opening in the seat for communicating with the interior of the container, portions of the body at opposite sides of the seat depressed to provide inwardly projecting folds at the sides of the seat, and an initially flat closure slidably cooperating with the seat to control the opening and having its edge portions received under the folds to be flexed into conformity with the seat through its cooperation with the folds.

5. A closure construction for a container including a body to be applied to the container and having a concave portion forming a seat, there being a preformed opening of substantial size in the seat for communicating with the interior of the container, portions at opposite sides of the seat depressed to provide inwardly projecting folds at the sides of the seat, a closure slidably and removably cooperating with the seat to control said opening and having opposite edge portions received under the folds to be held in sliding engagement with the seat thereby, there being sifting perforations in the closure for regis-

tering with the opening when the closure is in an intermediate position.

6. A closure construction for a container including a body to be applied to the container and having a cylindrically concaved portion forming a seat, there being an opening in the seat, concave depressions pressed in the body at opposite sides of the seat to form folds in spaced concentric relation to and overhanging edge portions of the seat to leave guideways, and a closure slidably cooperating with the seat with its edge portions cooperating with the guideways to be guided thereby.

7. A closure construction for a container including a body to be applied to the container and having a cylindrically concaved portion forming a seat, there being an opening in the seat, depressions pressed in the body at opposite sides of the seat, folds formed on the side walls of the seat by reason of the formation of said depressions, the folds being in spaced concentric relation to and overhanging edge portions of the seat to leave guideways, and a closure slidably cooperating with the seat and having portions engaged in the guideways to be held in cooperation with the seat, the closure being removable from the body to leave the opening accessible to receive a device for removing material from the container.

8. A closure construction for a container including a body to be applied to the container and having a concaved portion forming a seat, shoulders in the body at the ends of the seat, guides on the body concentric with and overhanging the opposite side portions of the seat, there being an opening in the seat for communicating with the interior of the container, a closure slidable on the seat to control the opening and guided by said guides, the closure being removable from the body to leave the opening freely accessible, and means on the closure cooperable with said shoulders to releasably hold the closure in the closed position.

9. A closure construction for a container including a body to be applied to the container and having a concaved portion forming a seat, shoulders in the body at the ends of the seat, guides on the body concentric with and overhanging the opposite side portions of the seat, there being an opening in the seat for communicating with the interior of the container, a closure slidable on the seat to control the opening and guided by said guides, the closure being removable from the body to leave the opening freely accessible, and means on the closure cooperable with said shoulders to releasably hold the closure in the closed position, said means including curls on the closure for engaging the shoulders.

10. A closure construction for a container including a body to be applied to the container and having a portion forming a seat, shoulders on the body at the ends of the seat, guides on the body concentric with and overhanging the opposite side portions of the seat, there being an opening in the seat for communicating with the interior of the container, a closure slidable on the seat to control the opening and guided by said guides, the closure being removable from the body to leave the opening freely accessible, the closure having sifter openings in the closure for registering with the first mentioned opening, a handle projection on the closure, and means on the closure cooperable with said shoulders to releasably hold the closure in the closed position.

11. A closure construction for a container comprising a body to be applied to the container, a curved seat on the body having an opening for

discharging the contents from the container, a closure shiftable on the seat to control the opening, the opposite ends of the seat being unobstructed whereby the closure may be shifted to extend from either end of the seat, the closure being removable from the body upon being shifted from the seat in one direction, guide means for guiding the closure when on the seat, and stop means for retaining the closure on the body for ready reclosing when moved in the other direction to a full open position.

12. A closure construction for a container comprising a body to be applied to the container, a curved seat on the body having an opening for

discharging the contents from the container, a closure shiftable on the seat to control the opening and removable from the body upon being shifted from the seat in one direction, guide means for guiding the closure when on the seat, and stop means for retaining the closure on the body for ready reclosing when moved in the other direction to a full open position, the last named means including stop lugs formed on the body to project inwardly from the opposite sides of the seat at one end of the seat, and a part on the closure engageable with the stop lugs.

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