

July 15, 1941.

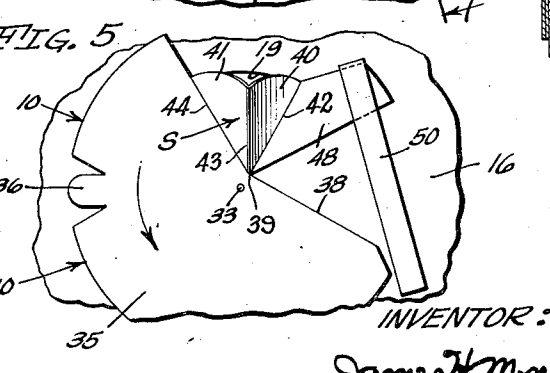
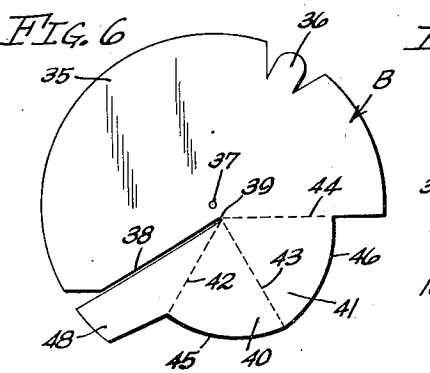
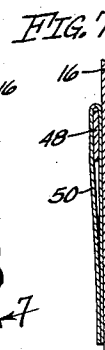
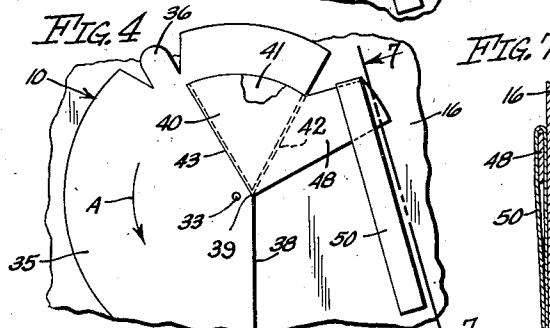
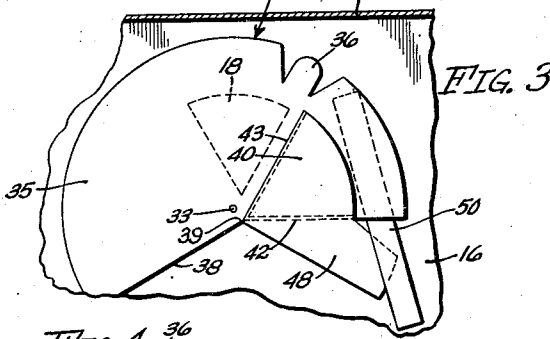
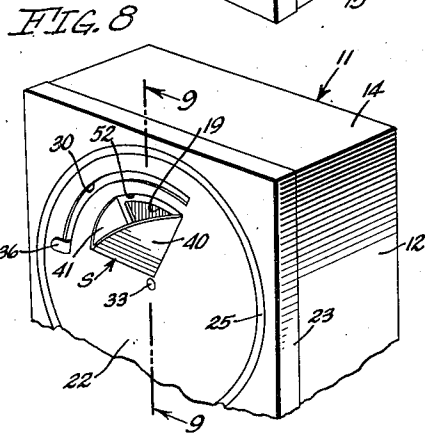
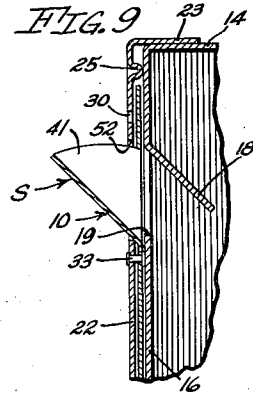
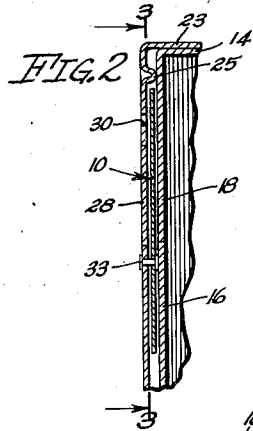
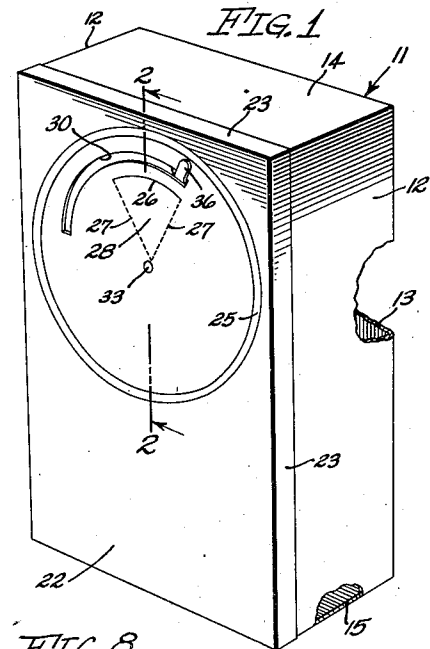
J. H. MORRISON

2,249,574

CLOSURE AND SPOUT FOR CONTAINERS

Filed Nov. 17, 1939

3 Sheets-Sheet 1



INVENTOR:
James H. Morrison

July 15, 1941.

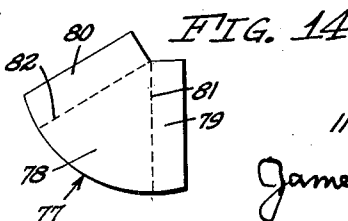
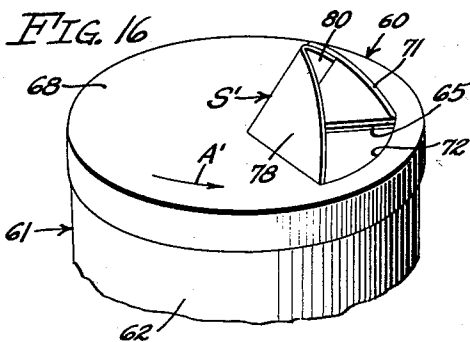
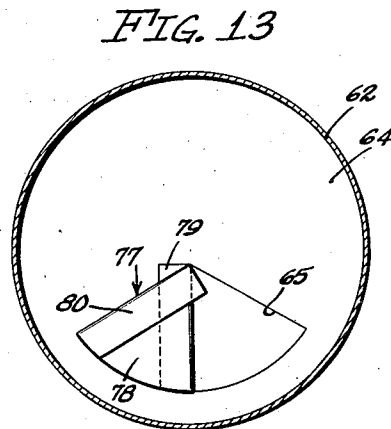
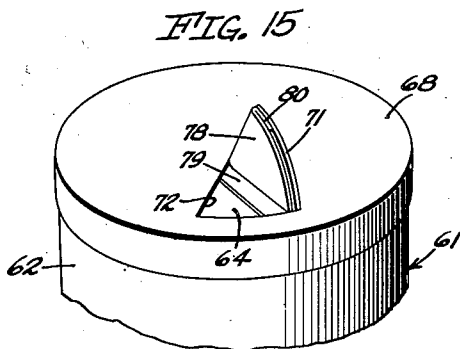
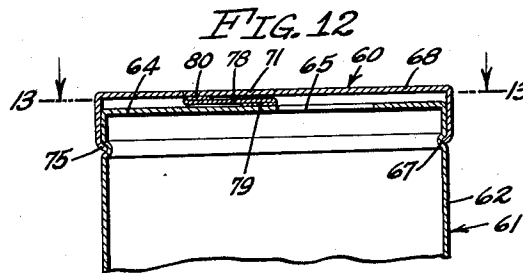
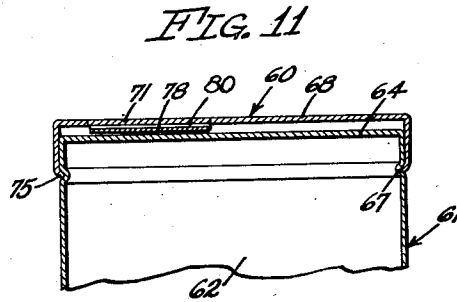
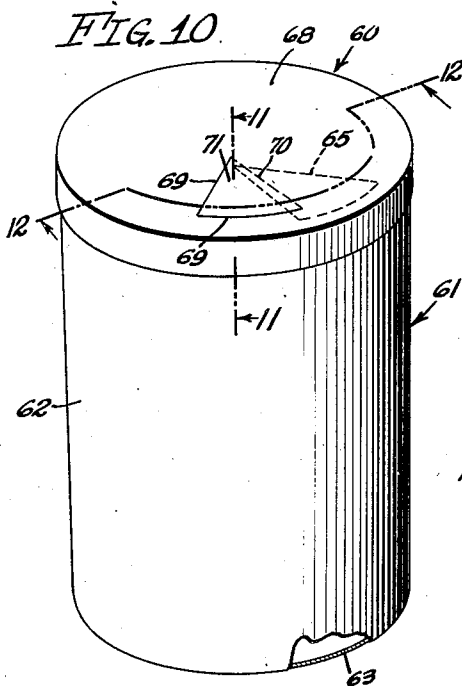
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CLOSURE AND SPOUT FOR CONTAINERS

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3 Sheets-Sheet 2



INVENTOR:
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July 15, 1941.

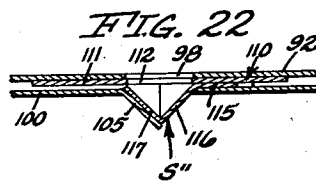
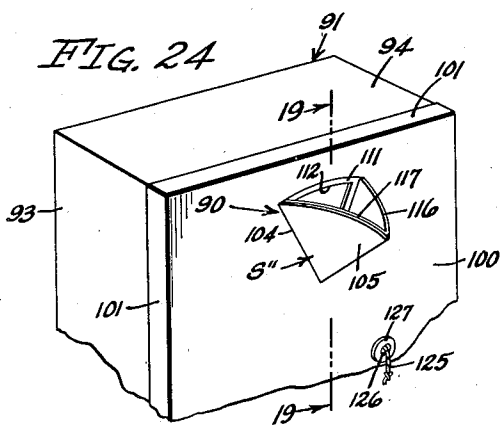
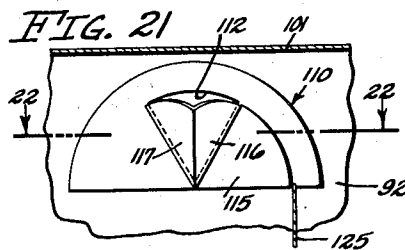
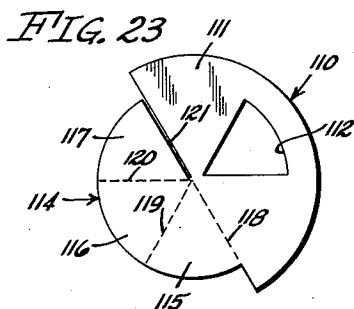
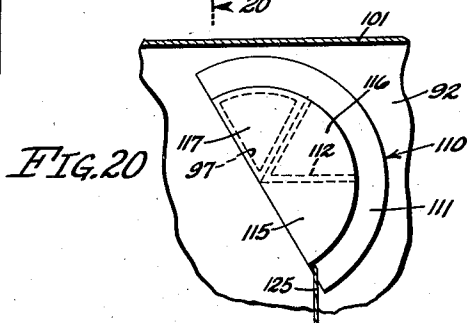
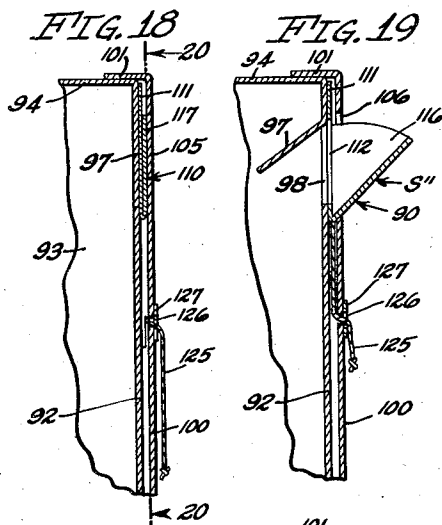
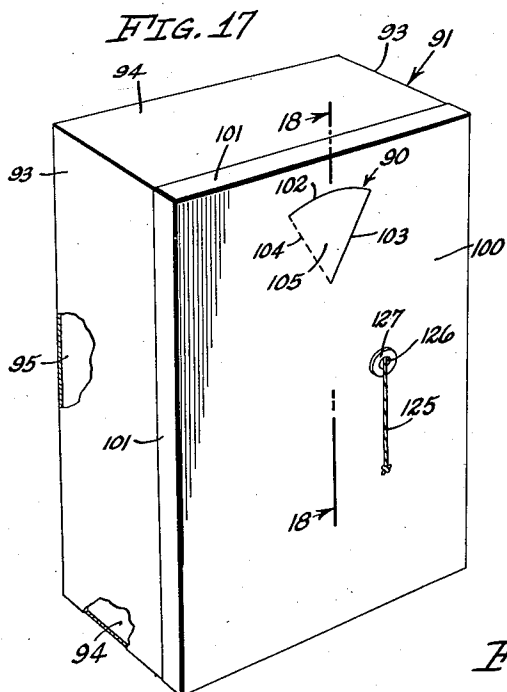
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2,249,574

CLOSURE AND SPOUT FOR CONTAINERS

Filed Nov. 17, 1939

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,249,574

CLOSURE AND SPOUT FOR CONTAINERS

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Application November 17, 1939, Serial No. 304,961

5 Claims. (Cl. 221-11)

My invention relates to dispensing containers and more particularly to a novel form of combined closure and spout for use on such containers.

In addition to the many foods, household commodities and the like sold in disposable paper containers, many additional products of this nature are now being marketed in this manner rather than using the heavier and more costly glass containers. Milk, for example, is now being packaged in paper containers to eliminate the necessity of washing, handling and returning the empty milk bottles. The marketing of liquid food stuffs, as well as other pourable commodities, in paper containers has involved the problem of providing such a container from which the contents can be conveniently poured and yet provide such a container which can be properly closed after each pouring to protect the contents until the container is empty.

An object of my invention is to provide a device for use on a container which is adapted to adequately close the container and also form a pouring spout when the container is opened.

A further object is to provide such a device in which the pouring spout is automatically brought into position in response to the removal of the closure means from the outlet of the container.

Still another object of this invention is to provide a novel form of collapsible spout which may be readily brought into operative pouring position or retracted into inoperative position.

Other objects and advantages will become apparent in the following description taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of a dispensing container on which a preferred embodiment of the combined closure and spout of my invention is mounted.

Fig. 2 is a fragmentary vertical sectional view taken on the line 2-2 of Fig. 1.

Fig. 3 is a vertical sectional view taken on the line 3-3 of Fig. 2.

Figs. 4 and 5 are similar to Fig. 3 and show successive stages in the procedure of moving the device of my invention from the closed position shown in Fig. 3 to the open or pouring position shown in Figs. 5, 8 and 9.

Fig. 6 illustrates the shape of the blank of a portion of the device of my invention.

Fig. 7 is a fragmentary sectional view taken on the line 7-7 of Fig. 4.

Fig. 8 is a fragmentary perspective view similar

to Fig. 1 showing the device of my invention as it appears when in pouring position.

Fig. 9 is a fragmentary sectional view taken on the line 9-9 of Fig. 8.

Fig. 10 is a perspective view of a container upon which a modified form of container closure and spout for my device is mounted.

Fig. 11 is a fragmentary sectional view taken on the line 11-11 of Fig. 10.

Fig. 12 is a view similar to Fig. 11 but taken on the line 12-12 of Fig. 10.

Fig. 13 is a horizontal sectional view taken on the line 13-13 of Fig. 12.

Fig. 14 is a detail view showing the shape of the blank used to form a portion of the apparatus disclosed in Fig. 13.

Fig. 15 is a fragmentary perspective view illustrating the first step in opening the container shown in Fig. 10.

Fig. 16 is a perspective view similar to Fig. 15 showing the device as it appears when fully open to pouring position.

Fig. 17 is a perspective view of a container upon which another modified form of a container closure and spout forming device of my invention is mounted.

Fig. 18 is a fragmentary vertical sectional view taken on the line 18-18 of Fig. 17.

Fig. 19 is a view similar to Fig. 18 but taken on the line 19-19 of Fig. 24 and showing the device in open pouring position.

Fig. 20 is a fragmentary vertical sectional view taken on the line 20-20 of Fig. 18.

Fig. 21 is a view similar to Fig. 20 showing the device in open pouring position.

Fig. 22 is a fragmentary horizontal sectional view taken on the line 22-22 of Fig. 21.

Fig. 23 is a view showing the shape of the blank of a portion of the device shown in Fig. 20.

Fig. 24 is a fragmentary perspective view similar to Fig. 17 showing the device in open pouring position.

Referring specifically to the drawings, a preferred embodiment of my invention is shown in Figs. 1 to 9 inclusive, this embodiment including a closure and spout forming device 10 mounted on a container 11. The container 11 includes side walls 12, a rear wall 13, upper and lower ends 14 and 15 respectively and a front wall 16. The wall 16 is suitably perforated to provide a portion 18 which may be forced inwardly as described hereinafter to provide an opening 19 in the wall 16 as seen in Figs. 5, 8 and 9.

Superimposed on the front wall 16 of the container 11 is a secondary wall 22 having side

flanges 23 which overlie and are sealed on the sides 12 and ends 14 and 15 of the container 11. Formed on the secondary wall 22 is a circular bead 25 which extends inwardly as seen in Fig. 2 and serves to support the wall 22 in spaced relation with the front wall 16 of the container 11. As seen in Fig. 1 the secondary wall 22 is cut along an arcuate line indicated at 26 and perforated on the lines indicated at 27 to define a portion 28 which may be torn from the wall 22 as described hereinafter. Provided on the wall 22 in concentric relation with the bead 25 is an arcuate slot 30.

Extending through the wall 22 in concentric relation with the arcuate slot 30 is a rivet 33 upon which the closure and spout forming device 10 is rotatably mounted. The device 10 is preferably made of tough paper and includes a blank B as shown in Fig. 6. The blank B includes a portion 35 having a tab 36 formed on one edge thereof. A hole 37 is formed through the blank B in concentric relation with the arcuate periphery of the portion 35. Indicated at 38 is a cut extending inward to a point 39 disposed adjacent the hole 37. Spout forming portions 40 and 41 are defined by folding lines 42, 43 and 44 which radiate from the point 39. Arcuate edges 45 and 46 of the portions 40 and 41 are concentric with the hole 37 when the portions 40 and 41 are folded on the lines 42, 43 and 44 into overlapping relation as shown in Fig. 3. Between the cut 38 and folding line 44 is a portion 48 providing a stop as described hereinafter. The device 10 is positioned between the front wall 16 of the container 11 and the secondary wall 22 as seen in Fig. 2 with the tab 36 thereof extending through the arcuate slot 30 of the wall 22.

Mounted on the wall 16 as seen in Figs. 3, 4, 5 and 7 is a sling 50 positioned to receive the portion 48 of the blank B.

Operation

To open the container 11 the portion 28 is first torn from the wall 22 thus providing an opening 52 as seen in Figs. 8 and 9 and exposing the portion 35 of the blank B. The tab 36 is then manually moved leftward in the direction indicated by the arrow A of Fig. 4. When the device 10 has moved from the position in which it is shown in Fig. 3 to that shown in Fig. 4, movement of the portion 48 thereof is arrested by the sling 50. At this moment the overlapping spout forming portions 40 and 41 are disposed in alignment with the opening 52 of the wall 22. Continued movement of the tab 36 causes the portions 40 and 41 to expand through the opening 52 to form the spout S shown in Figs. 5, 8 and 9. The final operation in opening the container 11 is to force the portion 18 of the wall 16 inward as seen in Fig. 9 or tear the portion 18 from the wall 16 to provide the aforementioned opening 19. The portion 18 is preferably provided when the container is used for liquids. When packaging dry commodities, a hole (not shown) may be provided in the wall 16 in place of the removable portion 18.

To close the container 11, the tab 36 is returned to its original position as shown in Fig. 1 causing the portions 40 and 41 of the spout S to be refolded into overlapping position in which they are shown in Fig. 3. This closing operation also brings the portion 35 of the blank B into closing relation with the aligned openings 19 and 52 of the walls 16 and 22 respectively.

The container is thus readily closed to effectively protect the remaining contents thereof.

Referring now to Figs. 10 to 16 of the drawings, I have shown therein a modified form of my invention which includes a closure and spout forming means 60 for a container 61. The container 61 is preferably of cylindrical form including a side wall 62, a bottom wall 63 and a top wall 64, the latter having an outlet opening 65 formed therethrough as shown in Figs. 12, 13 and 16. Formed around the side wall 62, adjacent the top wall 64 of the container 61, is a circular groove 67 as seen in Figs. 11 and 12. Rotatably mounted on the top of the container 61 is a cap 68, the latter being cut on lines 69 and perforated on a line 70 as shown in Fig. 10 to provide a removable portion 71 which may be swung upwardly from the top 68 as shown in Fig. 15 to provide an opening 72 in a manner described hereinafter.

The cap 68 is retained on the container 61 by means of an inturned bead 75 disposed about the lower edge thereof, the bead being received by the recess 67 as seen in Figs. 11 and 12. Mounted between the top wall 64 of the container 61 and the rotatable cap 68 is a pouring spout forming member 77, the latter including a segmental portion 78 having flaps 79 and 80 formed on opposite sides thereof along folding lines 81 and 82 as seen in Fig. 14.

To mount the member 77, the flap 79 is turned under the portion 78 and secured to the container top 64 adjacent one edge of the opening 65 as seen in Fig. 13. The other flap 80 is bent along the line 82 into superposed relation with the portion 78, this flap being secured to one edge of the removable portion 71 of the cap as seen in Figs. 12, 15 and 16.

Operation

Prior to opening, the container 61 appears as shown in Fig. 10 with the removable portion 71 pressed into the opening 72 so as to collapse the spout forming member 78 as seen in Fig. 12. To open the container 61 the portion 71 is manually lifted from the opening 72 to the position in which it is shown in Fig. 15. The cap 68 is then rotated in the direction indicated by the arrow A' of Fig. 16 to bring the opening 72 of the cap 68 into alignment with the opening 65 of the top wall 64 of the container 61. The portion 71 of the cap 68 and the portion 78 of the spout forming member 77 are spread as seen in Fig. 16 to form a pouring spout S'.

To close the container 61 after a pouring operation the cap 68 is again rotated from the position in which it is shown in Fig. 16 to that shown in Fig. 15 to collapse the spout S'. The collapsed spout is then swung downward into opening 72 and the portion 71, when pressed into this opening, closes the container and retains the collapsed spout therebeneath.

Reference is now made to Figs. 17 to 24 inclusive of the drawings in which I have shown a third modified form 90 of container closure and spout forming device of my invention. The device 90 is shown mounted on a container 91 having a front wall 92 as seen in Figs. 18 and 19, side walls 93, end walls 94 and a rear wall 95. The front wall 92, as seen in Figs. 18 and 19, is suitably perforated to provide a flap 97 which may be pushed inward to form an outlet opening 98 as described hereinafter. Superposed on the front wall 92 in spaced relation therewith is a secondary wall 100 having flanges 101 at its sides,

these flanges being secured to the sides and end walls of the container 91. The secondary wall 100 is cut on lines 102 and 103 and perforated along a line 104, as seen in Fig. 17, to provide a portion 105 which may be swung outward from the wall 100 to provide an opening 106 as hereinafter described. The closure and spout forming device 90 is formed from a blank 110 as seen in Fig. 23. The blank 110, preferably formed of relatively thin, tough paper, includes a semi-circular portion 111 having an opening 112 formed therethrough. Formed adjacent the portion 111 is a smaller semi-circular portion 114, the latter including three segmental portions 115, 116, and 117 these being defined by folding lines 118, 119, 120 and a cut 121.

The device 110 is mounted between the front wall 92 of the container 91 and the secondary wall 100 in the following manner: The semi-circular portion 114 is folded along the line 118 and cut 121 into the position in which it is shown in Fig. 20 in overlying relation with the semi-circular portion 111. The portion 117 of the smaller semi-circular portion 114 is fixed on to the inside surface of the portion 105 of the secondary wall 100 as by gluing or the like. The portion 115 is glued against the semi-circular portion 111 there being a cord 125 secured between the portion 111 and the portion 115 at the time these are fixed together. The cord 125 extends downward from the device 110 and passes through a suitable opening 126 provided in the secondary wall 100, the opening 126 being reinforced by an eyelet 127.

Operation

To open the container 91 the portion 105 is swung outwardly from the wall 100 into the position in which it is shown in Figs. 22 and 24. As the portion 117 of the device 110 is fixed on the portion 105 of the wall 100, outward movement of the portion 105 causes the portions 115 and 117 of the device 110 to be drawn outward through the opening 106 of the wall 100 thus forming a spout S' as shown in Fig. 24. This operation rotates the device 110 from the position in which it is shown in Fig. 20 to that shown in Fig. 21. As seen in Figs. 19, 21, 22 and 24, when the device 110 is thus moved into operative position the opening 112 of the device 110 is disposed in alignment with the flap 97 of the wall 92 and the opening 106 of the secondary wall 100. The final step in opening the container 91 is to press the flap 97 inward to the position in which it is seen in Fig. 19. After the pouring operation, the container 91 is again closed by pulling on the cord 125 which rotates the device 110 clock-wise as viewed in Fig. 21 to the position in which the device is shown in Fig. 20. The portion 105 is drawn inward toward the wall 100 in response to pulling the cord 125 and the final step in closing the container 91 is to press the portion 105 into the opening 106 of the secondary wall 100. When in closed position after once being opened the opening 90 of the front wall 92 of the container 91 is closed by the portion 111 of the device 110 as seen in Fig. 20.

It is thus seen that the preferred and modified forms of my invention provide simple and effective means for closing a container and providing a spout which greatly facilitates pouring the contents from the container. It is further seen that my invention provides means whereby a container which, after once being opened, may be readily and effectively closed after each pouring opera-

tion to protect the contents thereof. Although I have shown and described but one preferred and two modified forms of the device of my invention, it is to be understood that various modifications and changes might be made therein without departing from the spirit of the invention or the scope of the appended claims.

I claim as my invention:

1. Means forming a combined closure and pouring spout for a container, said container having an outlet opening formed in a wall thereof, said means comprising: a member rotatably mounted on said wall; a closure portion on said member for closing said opening; a collapsible spout formed by folding a pair of segmental portions of said member into superposed relation and folding said superposed portions flat against said member, said closure portion being moved out of closing relation with said opening in response to rotation of said member; and stop means for arresting rotation of the portion of said member adjacent one side of said collapsible spout while permitting continued rotation of the portion of said member adjacent the opposite side of said spout, said spout being expanded into operative position in alignment with said opening in response to said continued rotation following the arrest of movement of said portion by said stop means.

2. Means forming a combined closure and pouring spout for a container, said container having an outlet opening formed in a given wall thereof, said means comprising: a secondary wall superposed over said given wall, said secondary wall having an opening aligning with the opening of said given wall; a member rotatably mounted between said given and said secondary walls; a closure portion on said member for closing said wall openings; a collapsible spout formed by folding a pair of segmental portions of said member into superposed relation and folding said superposed portions flat against said member, said closure portion being moved out of closing relation with said openings in response to rotation of said member; and stop means for arresting rotation of the portion of said member adjacent one side of said collapsed spout while permitting continued rotation of the portion of said member adjacent the opposite side of said spout, said spout being expanded into operative position in alignment with said openings in response to said continued rotation following the arrest of movement of said portion by said stop means.

3. In a container for pourable material, the combination of: an element rotatably mounted on a given wall of said container, said given wall having an opening formed therethrough, said element being rotatable in a plane parallel with the plane of said given wall; and a foldable pouring spout associated with said given wall and said rotatable element, said spout being folded into inoperative position in response to rotation of said element.

4. In a container for pourable material, the combination of: an element rotatably mounted on a given wall of said container, said wall having an outlet opening formed therethrough, said element being rotatable in a plane parallel with the plane of said wall and adapted to cover and uncover said outlet opening; and a foldable pouring spout associated with said given wall and said rotatable element, said spout, when inoperative, being normally folded flat against said wall and unfolded into pouring relation with said out-

let opening when said outlet opening is uncovered by said rotatable element, said spout being folded into said inoperative position when said outlet opening is covered by said rotatable element.

5. In a container for pourable material, the combination of: a wall having an opening there-through; a rotatable element mounted on said wall for opening and closing said opening; a collapsible spout associated with said movable element, said spout comprising a pair of substantially triangular-shaped portions, an edge of one

of said portions being flexibly joined to the corresponding edge of the other of said portions to enable said portions to be folded flat against each other or unfolded to form a spout, another edge of one of said portions being flexibly joined to said wall and the corresponding edge of the other of said portions being flexibly joined to said rotatable element, said spout being collapsed into inoperative position or expanded into operative relation with said wall opening in response to rotation of said element.

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