June 19, 1956 R. NYDEN 2,751,131

RESILIENT POURING SPOUT

Filed June 6, 1952

Fig. 1.

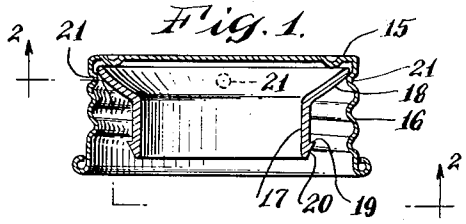


Fig. 3.

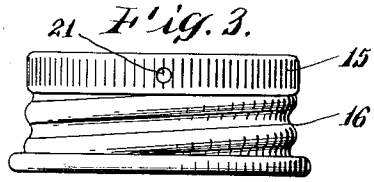


Fig. 2.

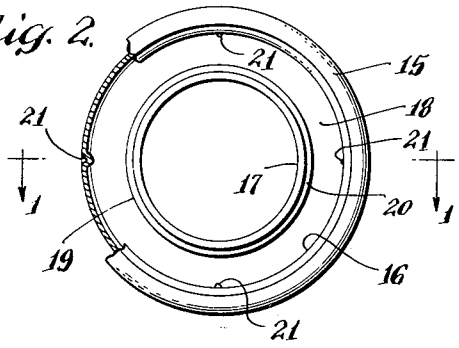


Fig. 5.

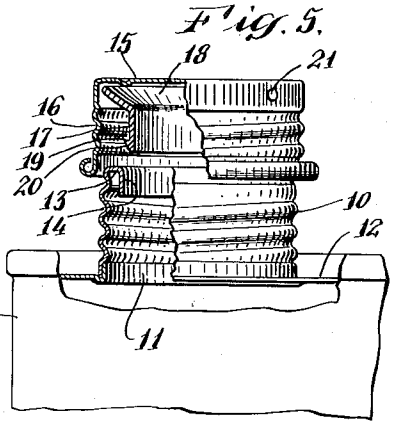


Fig. 4.

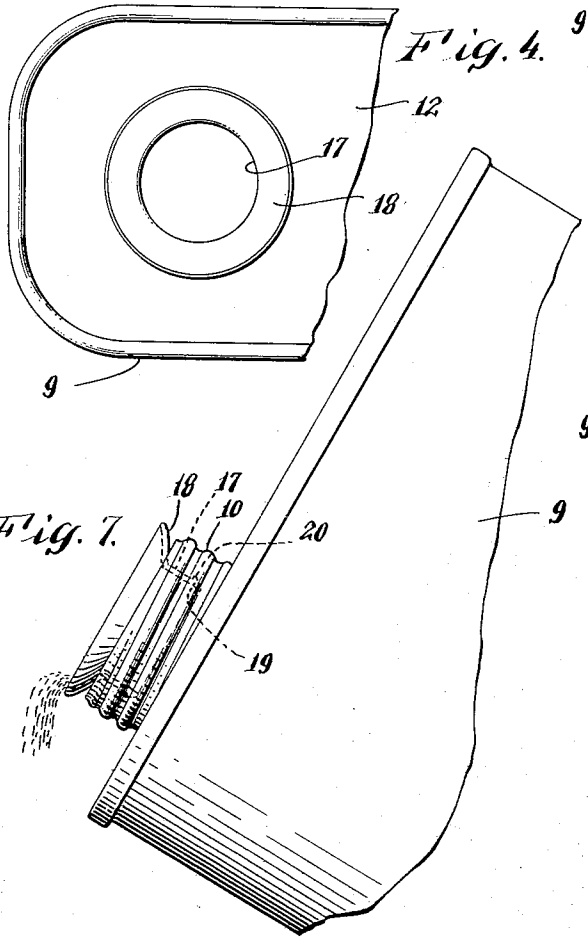


Fig. 6.

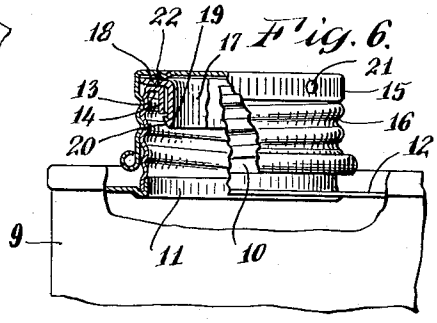
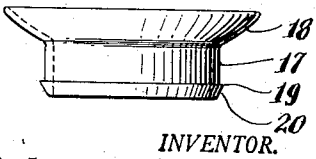


Fig. 7.

Fig. 8.



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RESILIENT POURING SPOUT

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7 Claims. (Cl. 222—562)

This invention relates to pouring spouts for containers for liquids having a nozzle in the top wall spaced from the side walls of the container.

In pouring the liquid from the container through said nozzle, the liquid accumulates on the top wall of the container around the nozzle which accumulation becomes unsightly and might interfere with the sealing of the nozzle by the usual closure cap.

It is an object of the present invention to provide a one-piece pouring spout of resilient material, such a polyethylene, which is readily inserted in the container nozzle by the initial mounting of the closure cap on said container nozzle after the container is filled with liquid.

It is another object of the invention to provide the pouring spout with a flaring lip to direct the flow of liquid from the container and prevent dripping of the liquid onto the container top wall around the container nozzle, and the flaring lip being flexed against the mouth of the container nozzle by the closure cap being mounted on the container nozzle to constitute a sealing gasket for said closure cap.

It is a further object of the invention to releasably retain the pouring spout in a clousre cap whereby closure caps having pouring spouts assembled therein are stored for future assembling on the filled containers.

A further object of the invention is to provide a one-piece pouring spout which is economically manufactured.

Further objects and advantages of the invention will be set forth in the detailed description of the invention.

In the drawing accompanying and forming a part of this application, Figure 1 is a vertical-sectional view taken on the line 1—1 of Figure 2 looking in the direction of the arrows of the pouring spout fitted in a closure cap.

Figure 2 is an end view of the pouring spout and closure ccap looking into the open end of the closure cap from the line 2—2 of Figure 1 in the direction of the arrow with a portion of the skirt of the closure cap in section to show a protuberance on the closure cap skirt for releasably retaining the pouring spout in the closure cap.

Figure 3 is an elevational view of the closure cap.

Figure 4 is a top view of the portion of a container arranged with a nozzle having the pouring spout applied thereto.

Figure 5 is an elevational view of the portion of the container shown in Figure 4 and showing the closure cap having the pouring spout releasably retained therein in position to be initially mounted on a filled container.

Figure 6 is a view similar to Figure 5 showing the closure cap fully mounted on the container nozzle and the pouring spout fully inserted in the container nozzle with the pouring spout lip flexed to form a sealing gasket for the closure cap.

Figure 7 is a view of the top portion of the container in pouring position with the closure cap removed and the pouring spout in condition to direct the flow of the contents of the container.

Figure 8 is an elevational view of the pouring spout.

The present invention is particularly adapted for use

with a sheet metal container having a rectangular shaped body 9 arranged with a tubular nozzle 10 secured in an opening 11 in an end wall 12 of the body. The nozzle 10 and opening 11 are spaced from the side walls of the container body 9 and positioned at one side of the vertical center of said body, as shown in Figure 7. The nozzle 10 is provided with screw threads, as shown in Figures 5, 6 and 7. The upper end or mouth of the nozzle 10 is arranged with an inwardly extending flange or shoulder 13 having a depending flange 14 extending into and spaced from the nozzle, as shown in Figures 5 and 6.

The nozzle is closed by a closure cap 15 having a screw threaded skirt 16 for engagement with the screw threads of the nozzle 10 for removably mounting the closure cap on the container nozzle. It is to be understood that different methods of mounting the closure cap on the nozzle other than screw threads may be employed without departing from the scope of the invention.

The container is particularly adapted to contain viscous types of liquids, such as lubricating and polishing oils and creams, and in pouring said contents from the container through the nozzle 10, a certain amount of the contents will drip and accumulate on the end wall 12 around the nozzle 10.

To prevent this dripping and accumulation of the contents, there is provided an economical one-piece pouring spout of resilient material, such as rubber or polyethylene. Said pouring spout includes a tubular body 17 having a lip 18 flaring from one end of the body and the opposite end of the body arranged with an external head 19. The exterior diameter of the spout body 17 is slightly smaller than the interior diameter of the depending flange 14 and the outer diameter of the bead 19 is slightly larger than the inner diameter of the flange 14 but the bead 19 is arranged with a bevelled face 20 to facilitate passage of said bead through the flange 14 due to the resiliency of the material of the spout. The length of the spout body 17 is slightly longer than the length of the depending flange 14 to position the bead 19, 20 below the marginal edge of the depending flange 14, as shown in Figure 6, to releasably retain the spout in the nozzle 10 when the spout is fully engaged in the nozzle 10 with the flaring lip 18 extending from the nozzle 10, as shown in Figure 7.

In initially applying the pouring spout 17—20 to the container nozzle 10, the pouring spout is fitted in the closure cap 15, 16 with the marginal portion of the flaring lip 18 abutting the juncture between the closed end and the skirt 16 of the closure cap. The pouring spout is releasably retained in the closure cap by inwardly extending protuberances 21 formed from the material of the closure cap skirt and equidistantly spaced around said skirt and spaced from the closed end of the closure cap to engage the exterior of the marginal portion of the pouring spout 18, as shown in Figures 1 and 2. By releasably retaining the pouring spout in the closure cap in this manner, a supply of closure caps having pouring spouts assembled therein can be accumulated to provide for a continuous and simultaneous capping of and inserting of pouring spouts into filled containers.

To facilitate the simultaneous mounting of the closure cap 15, 16 on the container nozzle 10 and the inserting of the pouring spout body 17 into the container nozzle 10, the length of the pouring spout 17—20 is less than the length of the closure cap skirts 16, so that the beaded end 19, 20 of the pouring spout body 17 is spaced inwardly from the marginal edge of the closure cap skirt 16 and the closure cap skirt 16 will first engage the container nozzle 10 and guide the beaded end 19, 20 of the pouring spout body 17 into the opening formed by the depending flange 14, as shown in Figure 5. The mounting of the closure cap 15, 16 onto the container nozzle

10 will move the pouring spout body 17 into the container nozzle 10 with the bead 19, 20 positioned below the marginal edge of the depending flange 14 and the flaring lip 18 flexed to a horizontal position against the shoulder or flange 13 of the container nozzle 10 to constitute a sealing gasket for the closure cap, as shown at 22 in Figure 6.

The bead 19, 20 of the pouring spout 17—20 abutting the marginal edge of the depending flange 14 of the container nozzle 10 will retain the pouring spout 17—20 in the container nozzle 10 upon the removal of the closure cap 15, 16 from said nozzle. The resiliency of the pouring spout lip 18 will permit said lip to pull away from the protuberances 21 of the closure cap skirt 16 when the closure cap 15, 16 is removed from the container nozzle 10.

After the container is emptied, the pouring spout 17—20 may be removed from the container nozzle 10 by inserting the forefinger into the pouring spout body 17 and flexing the lip 18 inwardly by the thumb and pulling the pouring spout outwardly from the container nozzle 10.

The closure cap 15, 16 is readily mounted on and removed from the container nozzle 10 without affecting the retention of the pouring spout 17—20 in the container nozzle 10.

In pouring the contents from the container, the lip 18 will direct the flow of said contents from the sides of the container, as shown in Figure 7, and prevent dripping of the contents onto the container end 12 when the container is set in upright position after pouring by causing the contents to flow down the flare of the lip 18 into the pouring spout body 17 and the container.

It is to be understood that the pouring spout 17—20 is adapted to be used with any type of container other than that shown and described herein.

Having thus described my invention, I claim:

1. As an article of manufacture, a one-piece pouring spout of resilient material for containers including a tubular body having an annular lip of uniform width inclining outwardly from one end of the body, the length of the body and the width of the lip being substantially the same.

2. The combination with a container having a tubular nozzle projecting from an end wall and spaced from the side walls of the container and said nozzle having a depending flange within and spaced from the wall of the nozzle, of a one-piece pouring spout of resilient material including a tubular body of smaller exterior diameter than the interior diameter of the flange whereby the tubular body is adapted to be inserted in the container nozzle, an annular lip of uniform width inclining outwardly from one end of the body to extend exteriorly of the container nozzle and an external bead on the opposite end of the body to be positioned below the depending flange of the container nozzle to releasably retain the spout in the container nozzle and the tubular body between the lip and bead being of uniform diameter to fit the depending flange.

3. The combination claimed in claim 2, wherein the outer diameter of the bead is larger than the inner diameter of the depending flange and the bead is arranged with a beveled face to facilitate passage of the bead past the depending flange of the container nozzle.

4. The combination with a container having a tubular nozzle projecting from an end wall and spaced from the side walls of the container and a closure cap having a skirt removably mounted on the container nozzle, of a one-piece pouring spout of resilient material including a tubular body having an exterior diameter smaller than the interior diameter of the nozzle whereby the tubular body is adapted to be inserted in the container nozzle and an annular lip of uniform diameter inclining outwardly from one end of the body and the marginal portion of the lip having an exterior diameter smaller than the interior diameter of the closure cap whereby the marginal portion of the lip is adapted to fit in the closure cap with the tubular body spaced from the inside of the closure cap skirt and whereby the pouring spout is inserted in the container nozzle by fitting the lip end of the spout in the closure cap and mounting the closure cap on the container nozzle, the mounting movement of the closure cap inserting the spout into the container nozzle.

5. The combination as claimed in claim 4, wherein the pouring spout is of less length than the length of the closure cap skirt, whereby the end of the tubular body opposite the lipped end is spaced inwardly from the marginal edge of the closure cap skirt when the lip of the pouring spout is fitted in the closure cap so that the closure cap skirt will engage the container nozzle prior to inserting the tubular body of the spout into the container nozzle.

6. The combination as claimed in claim 4, wherein the closure cap skirt is arranged with inwardly extending protuberances adjacent to the closed end of the closure cap, and the marginal portion of the pouring spout lip is positioned between said protuberances and the closed end of the closure cap when the lip is fitted in the closure cap to releasably retain the pouring spout in the closure cap during the initial mounting of the closure cap on the container nozzle.

7. The combination with a container having a tubular nozzle projecting from an end wall and spaced from the side walls of the container and said nozzle arranged with an annular flange extending inwardly from the mouth thereof and a closure cap removably mounted on the container nozzle, of a one-piece pouring spout of resilient material including a tubular body having an exterior diameter smaller than the interior diameter of the container nozzle whereby the tubular body is adapted to be inserted in the container nozzle and an annular lip of uniform width inclining outwardly from one end of the tubular body to extend from the mouth of the container nozzle when the tubular body is inserted in the container nozzle and is flexed against the flange of the container nozzle by the closure cap in mounting the closure cap on the container nozzle to constitute a sealing gasket for said closure cap and assume its outwardly inclining position upon removal of the closure cap from the container nozzle by the resiliency of the lip.

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