Jan. 1, 1952 R. W. SHORE 2,581,150

RETRACTABLE SPOUT FOR CONTAINER, WITH PROTECTIVE COVER FOR SAID SPOUT IN ITS RETRACTED POSITION

Filed March 6, 1946 2 SHEETS—SHEET 1

Fig. 1.

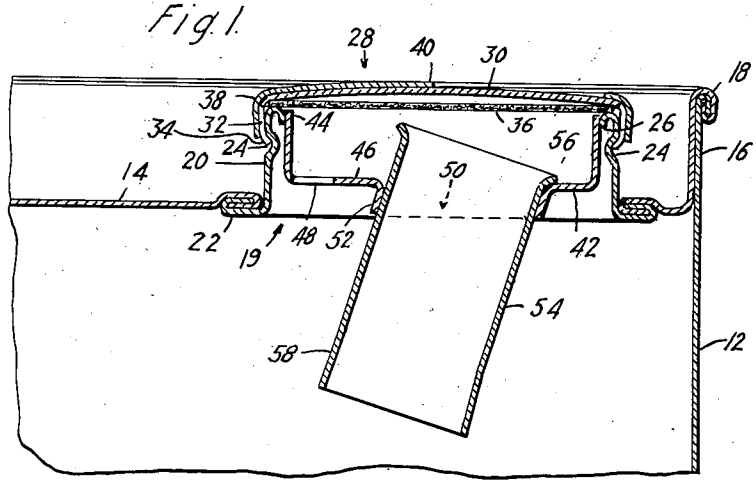



Fig. 2.

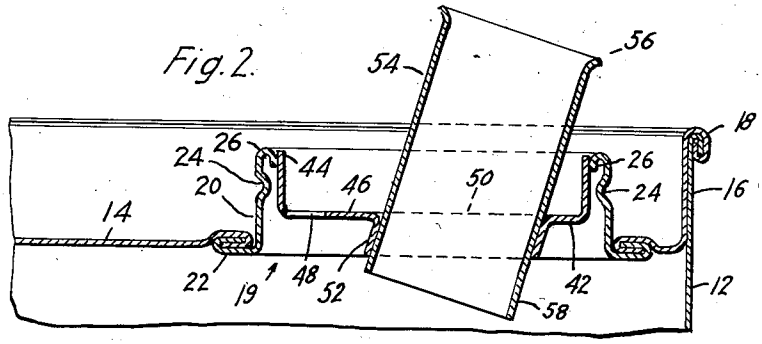
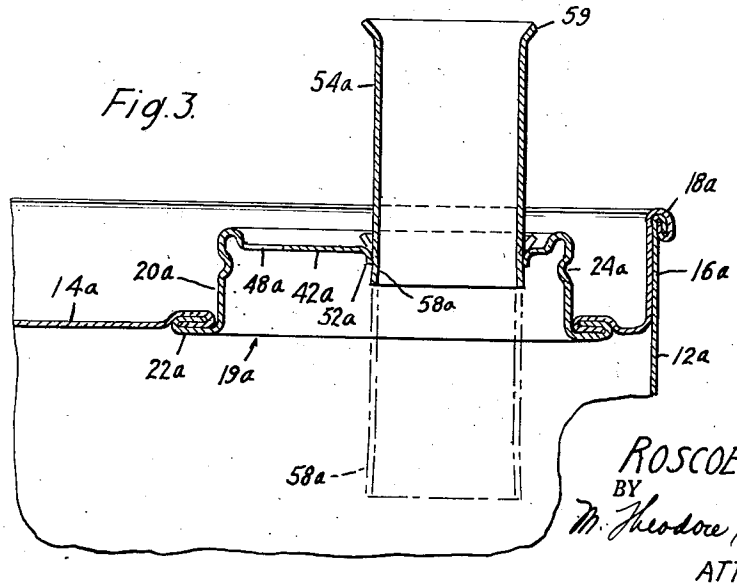



Fig. 3.




INVENTOR.
ROSCOE W. SHORE
BY
M. Theodore Simmons
ATTORNEY

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Fig. 4.

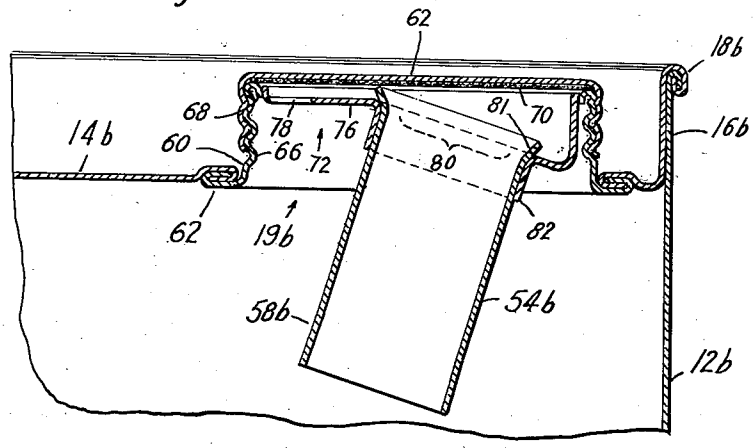



Fig. 5.

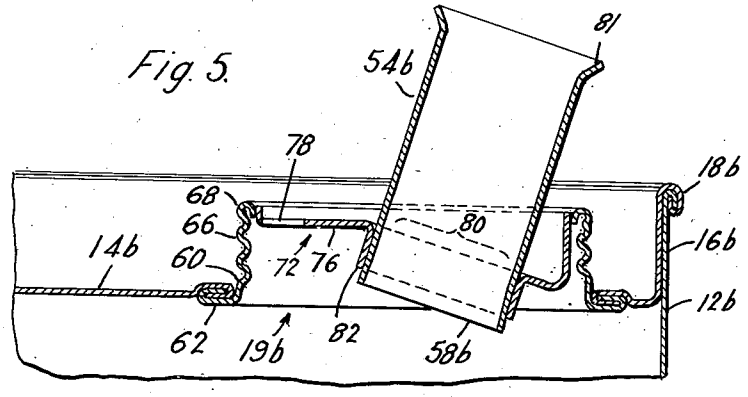
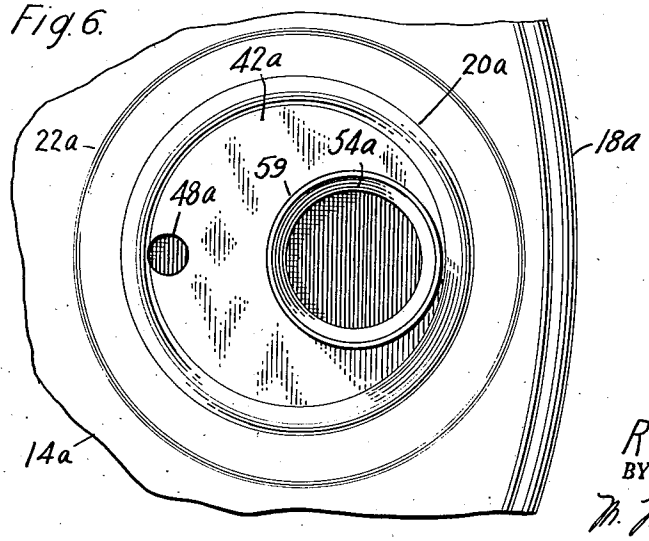



Fig. 6.




INVENTOR.
ROSCOE W. SHORE
BY
M. Theodore Simmons
ATTORNEY

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# UNITED STATES PATENT OFFICE

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## RETRACTABLE SPOUT FOR CONTAINER, WITH PROTECTIVE COVER FOR SAID SPOUT IN ITS RETRACTED POSITION

Roscoe W. Shore, Jackson Heights, N. Y.

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4 Claims. (Cl. 222—525)

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This invention relates to spouts for containers, and particularly to spouts which are movable relative to the containers between an outer pouring position and a position substantially within the container contours.

One object of this invention is to provide a combined spout and container structure of the above indicated character in which the spout is adapted for telescopic movement along an axis either normal to a wall, such as the head wall of the container, or along an axis sloping upwardly and laterally outwardly of the container, and between an inner position, with the outer end of the spout adjacent to the container, and an outer pouring position, with the spout protruding from and adapted to direct liquid over an edge of the container.

Another object of the invention is to provide a spout structure, as aforesaid, in which the spout, in its inner position, is under and protected by a separate cover, which may be any of various standard covers now on the market.

Another object of the invention is to provide a telescopically movable spout, as indicated, which is part of an attachment having therein a separate vent for the container, whereby to insure steady pouring and to prevent hesitant or intermittent pouring.

Another object of the invention is to provide an insert attachment which carries a telescopic pouring spout and is arranged to fit into the collars of existing closable access openings, whether said closures be of the snap-on or of the screw cap type.

Another object of the invention is to provide novel means whereby a spout may be movably telescopically mounted diagonally to a container wall, as by providing a flange sloping relative to a partition parallel to such wall, or a flange normal to a partition sloping relative to the wall.

Another object of the invention is to provide novel means for positively holding the spout in its outer or pouring position, and preventing it from falling into the container from its outer position.

Another object of the invention is to provide a container spout structure which is simple and durable in construction, economical to manufacture, easy to apply, and effective in its operation.

With such objects in view, as well as other advantages which may be incident to a utilization of the improvements, the invention comprises the elements and combinations thereof hereinafter set forth and intended by the drawings, specification and claims, with the understanding that the several necessary elements constituting the same may be varied in shape, proportion, arrangement and texture, without departing from the nature and scope of the invention.

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To make the invention more clearly understood, means are shown in the accompanying drawings for carrying the same into practical effect, without limiting the improvements in the useful applications thereof to the particular constructions which, for the purposes of explanation, are made the subject of illustration.

In the drawings:

Figure 1 is a side view in section of a portion of a container having a spout structure of the invention thereon, applied under a standard cover of a certain type.

Fig. 2 is a view, similar to Fig. 1, with the cover removed and the spout in outer pouring position.

Fig. 3 is a view somewhat similar to Figs. 1 and 2, of a modified form of the invention.

Fig. 4 is a view, similar to Fig. 1, showing a modification of the spout supporting structure, and applied under a standard cover of another type.

Fig. 5 is a view, similar to Fig. 2, of the device shown in Fig. 4, and

Fig. 6 is a top plan view of the form shown in Fig. 3.

Referring to Figs. 1 and 2, the device therein shown comprises a container including a side wall 12 and a head 14 in the top of the container which is cup-shaped and forms the chime 16. The side wall of the head is attached to the upper edge of side wall 12 in any usual manner, one mode being indicated at 18.

The head 14 is provided with an outlet opening 19, which is circular in the present example, and in which is disposed a circular collar 20 having a bottom flange 22 secured to the head 14, as by a double seam, as shown. The collar 20 has an annular groove 24 and an inwardly return-bent top edge flange 26 formed to provide a uniform diameter opening defined by this flange. The closure cap 28 is of a well known snap-on type, made of resilient sheet metal, having a closed end 30 and a depending side wall in which are peripherally spaced longitudinal slots 32 providing a number of side wall fingers having inturned ends 34. A sealing gasket 36 may be held in the cover. In its closed position, Fig. 1, the end 30 is upwardly bowed and the inturned ends 34 engage in the groove 24. For shipping

purposes, a rupturable sealing ring **38** is provided, the same having a tab **40**.

To remove the cover, the tab **40** is lifted and torn through a side of the ring **38** to split the ring and thereby provide for its removal, whereupon the bowed end **30** is depressed to cause the ends **34** to move out of the groove **24**, and the cover **28** may be lifted off.

According to the example of the invention in Figs. 1 and 2, the opening defined by flange **26** is closed by a substantially cup-shaped partition **42** of resilient sheet material. The upstanding walls **44** of partition **42** are preferably of a size to have a friction fit with the inturned flange **26** by which the partition is held in place, but obviously the insert could be secured in place in other ways.

A bottom wall **46** of the partition **42** is provided with a vent hole **48** disposed entirely within the lateral limits of the partition **42** and close to the upstanding walls **44**. The bottom **46** has a pouring opening **50** arranged in diametrical alignment with the vent opening **48**.

The opening **50** is surrounded by an integral depending tubular flange **52** which forms a guide means for a tubular pouring spout **54**. In the form shown in Figs. 1 and 2, the depending guide **52** is inclined on an axis about 15° from the vertical, the inclination being in the direction of the adjacent chime **16** of the container.

The spout **54** is of resilient sheet material and has a sliding fit in the guide **52**. At its upper end, the spout is provided with an out-turned flange or bead **56** operating to hold the spout from falling into the container through the opening **50**, and which flange also may serve as a pouring lip. A lower end length section **58** of the spout **54** is expanded radially outwardly to form a tapered section such that, when the spout is pulled from the lower position of Fig. 1 to the upper position of Fig. 2, the section **58** will wedge itself into the guide **52** and positively hold the spout in its upper pouring position, in which it is inclined toward the chime **16**. Other means may be provided for so holding the spout.

In all of the figures of the drawings, the wall thicknesses of the various parts may be exaggerated, as shown, and be considerably thinner or thicker, or of any desired material, depending upon the size, application and other factors of the service to which the device is adapted. Also, while sheet metal is shown throughout, other materials may be substituted.

Referring to the modification of the invention shown in Fig. 3, in which corresponding parts are designated by corresponding reference numerals bearing the suffix *"a,"* the structure is similar to that of Figs. 1 and 2, with three notable exceptions. These are, first, that partition **42***a*, instead of being a separate entity from collar **20***a*, is an integral part thereof; second, that the depending flange **52***a* is substantially vertical so that spout **54***a* moves on a vertical axis from its lower to its upper or pouring position, and third, that the flange **56** is replaced by an outwardly flared lip **59**, which forms a convenient finger grip for lifting the spout **54***a* to its pouring position.

Thus, the modification of Fig. 3, instead of being an attachment for application to completed standard containers of old form, is a part of a new container structure applied before the structure is completed. It will be understood that flange **52** of Figs. 1 and 2 could be made straight instead of inclined, with a corresponding lessening of the depth of the cup-shaped partition. Also any of the formations of Figs. 1, 2 and 3 could be applied to the screw type of closure shown in Figs. 4 and 5, and vice versa.



Referring to the modification of the invention shown in Figs. 4 and 5, in which corresponding parts are here designated by corresponding reference numerals having the suffix *"b,"* the closure is of the standard screw cap type having a collar **60** which has a lower flange by means of which it is secured to the bottom wall of a container head **14***b*, as indicated at **62**. The upright portion has threads **66**, and an inwardly return-bent top edge flange **68**. The cap **62** is of a standard screw type fitting the threads **66** and having a sealing gasket **70**.

The partition **72** is generally cup-shaped with the side walls thereof having a friction fit with the inturned flange **68**. The bottom wall of the partition has a flat portion **76**, in which a vent opening **78** is located adjacent the side wall, and an area **80** which is downwardly inclined, in the direction of the chime **16***b* when the partition is in place in the collar **60**. An opening is provided in the area **80** having a surrounding, depending tubular or guide portion **82** for the spout **54***b*, the axis of the guide portion being normal to the area **80**. Pouring spout **54***b* has an upper outwardly flared flange **81** and a lower outwardly flared portion **58***b*, which latter serves the same function as the correspondingly designated part in Figs. 1 and 2. It will be noted that the axis of the pouring spout is normal to the plane of the area **80**, and when the spout **54***b* is raised to its upper or pouring position it is tilted toward the adjacent chime **16***b*.

In operation, with any of the arrangements described, a full and free flowing stream of liquid will pour from the container as it is tilted, and the vent opening being above the entrance level for the liquid into the pouring spout the container is constantly vented to the atmosphere during pouring. The vent, so located, also constitutes a warning to the attendant since if the container is tilted so that liquid emerges from the vent opening, it is a signal that the container is tilted too much, beyond the capacity of the spout.

The invention provides a durable, compact and convenient collapsible extension pouring spout, which is of considerable advantage, and renders the device a distinct advance in its field.

I claim:

1. The combination for a container including an outwardly protruding outlet collar of sheet material having a beaded outer edge, and a cap for the collar adapted to fit about said edge, of an element of substantially cup-shape for insertion into said collar and having an upstanding side portion adapted for frictional holding relation to said beaded edge to keep the element in place, the bottom wall of said element constituting a partition across the collar opening and having therein a simple vent opening and a larger aperture located radially outwardly of said vent, and a pouring spout so constructed and arranged as to be telescopically movable in said aperture between a position in which the outer end of the spout is supported by the partition under the cap and a position in which the outer end of the spout is outside the container and its inner end held to said partition.

2. The combination for a container including a normally horizontal head wall having a vertical outlet adjacent to a vertical side wall portion of

the container, a vertical collar about the outlet, and a cover fitting upon the collar, of a horizontal partition constructed for insertion in and frictional support in said collar and having a vent and a depending tubular portion, said portion sloping upwardly and outwardly and said vent being disposed inwardly thereof, and a tubular pouring spout telescopically fitting said tubular portion and having a top flange and a radially expanded tapered bottom length section, said flange normally resting on said partition under said cover and the spout being movable upwardly until said expanded section wedges in said depending tubular portion to hold the spout in its upper pouring position.

3. The combination for a container including a head wall having an inlet opening adjacent to a side wall of the container, a collar for the inlet and a cover for the collar, of an element of substantially cup-shape for insertion into said inlet for closing the same and adapted for frictional holding relation thereto to keep the element in place, a simple vent opening in said element providing direct communication between the interior of the container and the outer atmosphere and located at the edge of said element which is located closest the center of said head wall, a larger aperture in said element and located radially outwardly of said vent, and a pouring spout so constructed and arranged as to be telescopically movable in said aperture between a position in which the outer end of the spout is supported by the partition under the cap and a position in which the outer end of the spout is outside the container and its inner end held to said partition.

4. The combination for a drum including a head wall having a large opening therein for use in filling the container and an upstanding collar surrounding the opening and adapted to receive a removable closure cap, of a closure for said



opening for facilitating pouring from said drum, said closure comprising a partition for insertion in and frictional support in said opening after the drum is filled, an aperture in said partition having guide means cooperating therewith, a pouring spout fitting in said aperture and guide and telescopically movable therein between a position in which the outer end of the spout is under the cap and a position in which the outer end of the spout is in pouring position outside the container, the spout being provided with upper and lower flange portions by which it is supported in its lower and upper positions respectively, and a simple vent opening in said closure providing direct communication between the interior of the container and the outer atmosphere, said vent being located above the level of the bottom of said spout when the spout is raised to its uppermost position and said vent also being located inwardly of the pouring spout so that when the drum is tipped for pouring the full pouring capacity of the spout may be used.

ROSCOE W. SHORE.


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