Jan. 22, 1952 O. G. NILSON 2,583,007

POURING SPOUT

Filed April 20, 1948

Fig. 1

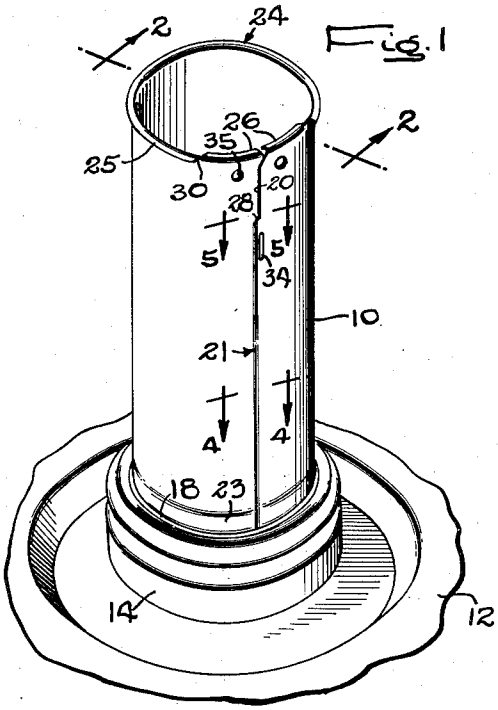


Fig. 2

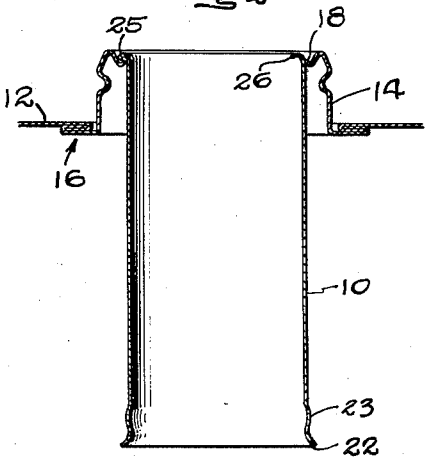


Fig. 3

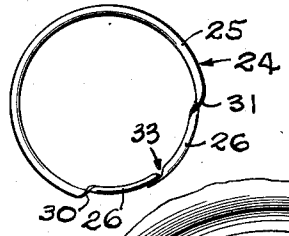


Fig. 5

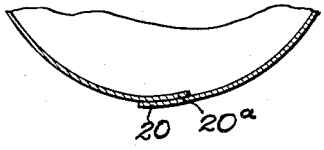


Fig. 4

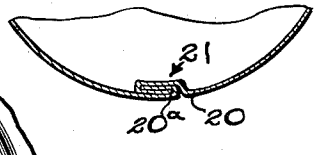


Fig. 6

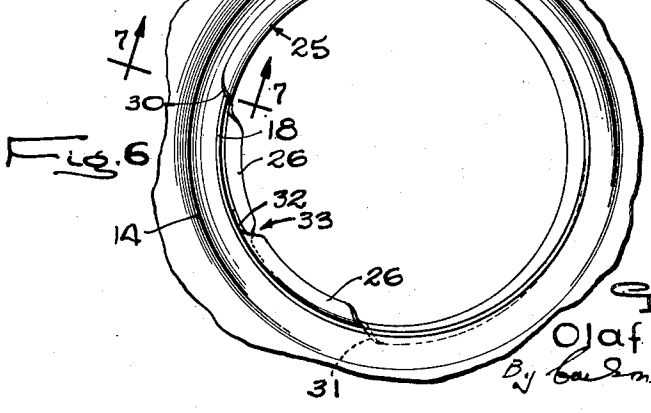
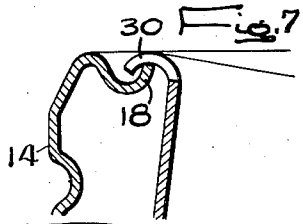


Fig. 7



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POURING SPOUT

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5 Claims. (Cl. 222—525)

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The present invention pertains to containers for oil and other liquids and more particularly to extensible pouring spouts for such containers.

Extensible pouring spouts heretofore in use commonly include a handle or bail by means of which the spout can be pulled from a retracted position within the container into extended or pouring position. The provision of the bail entails the necessity for additional material and manufacturing operations with the consequent increase in manufacturing costs. Additionally, prior constructions have necessitated the complete assembly by the manufacturer of the pouring spout within a neck member of a container top. Such construction necessitates increased storing and shipping space and has the further disadvantage of requiring the user either to stock two forms of container tops, those with pouring spouts and those without them, or to supply all container tops with pouring spouts whether needed or not.

Accordingly, it is a general object of the present invention to overcome the aforementioned disadvantages through the provision of an extensible pouring spout of exceedingly simple construction, capable of being quickly and easily applied and manipulated and which may be manufactured economically.

Another object lies in the provision of an extensible pouring spout of novel construction whereby the spout can be pulled from a retracted into an extended position, which permits of insertion of the completely formed spout in the neck of a container and, when the spout is once inserted, is effectual to positively retain it therein.

The objects of the invention thus generally set forth, together with other and ancillary advantages, are attained by the construction and arrangement shown by way of illustration in the accompanying drawings, in which:

Figure 1 is a perspective view of an extensible pouring spout embodying the present invention, showing the same in extended or pouring position.

Fig. 2 is a vertical section taken substantially in the plane of line 2—2 in Fig. 1, but illustrating the spout in retracted position.

Fig. 3 is a plan view of the spout.

Fig. 4 is a fragmentary transverse section on an enlarged scale, taken substantially in the plane of line 4—4 in Fig. 1.

Fig. 5 is a fragmentary transverse section on an enlarged scale, taken substantially in the plane of line 5—5 in Fig. 1.

Fig. 6 is a fragmentary plan view illustrating

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the insertion of the spout in the neck of the container top.

Fig. 7 is a fragmentary section taken substantially in the plane of line 7—7 in Fig. 6.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

By way of illustration, an extensible pouring spout 10, embodying the present invention, is shown in the drawings applied to a container top 12. As shown, the spout is received in a conventional neck member or collar 14, the latter being secured in the top 12 by a peripherally disposed folded seam 16. The spout 10 is axially slidable in the collar 14 which has an inturned edge portion defining an annular shoulder 18 coacting with stops at opposite ends of the spout to limit movement thereof between a retracted position as shown in Fig. 2, wherein the spout is disposed within the container (not shown), and an extended or pouring position as shown in Fig. 1.

The improved pouring spout 10 is of tubular form and is preferably made from a blank of light weight sheet metal having edges 20 and 20a secured together as by a folded seam 21 (Fig. 4). Preferably the spout 10 is of slightly smaller diameter than that of the opening defined by the shoulder 18 to permit free sliding movement of the spout in the collar 14. The lower end of the spout is formed with an outturned flange 22 to provide an inner stop for coaction with the shoulder 18 and limiting withdrawal of the spout from the collar.

To retain the spout in extended or pouring position and provide a snug fit between the spout and the collar 14, adjacent its lower end the spout is expanded slightly. In the present instance this is accomplished by forming in the spout a circumferentially disposed ridge or shallow bead 23 which frictionally engages the shoulder 18 upon withdrawal of the spout.

In carrying out my invention, I fashion the upper end of the spout 10 to provide means for pulling the spout from a retracted position and to permit easy initial insertion thereof through the collar 14, and when once inserted to positively prevent its removal. To this end, I provide a peripheral flange 24 on the upper end of

the spout having an outwardly extending arcuate portion preferably curled to form a downwardly opening bead 25 and a relatively short inturned arcuate portion or lip 26. The bead 25 forms an upper stop for coaction with the shoulder 18. To permit assembly of the spout in the collar, I make the upper end thereof slightly compressible to allow passage of the bead 25 through the opening defined by the shoulder 18. To this end, the seam 21 is terminated at a point spaced from the upper end of the spout as shown at 28, and from that point to the upper end of the spout the edges 20 and 20a of the material from which the spout was formed merely overlap (Fig. 5). Such construction permits the edges 20 and 20a to be forced together slightly with a consequent slight, temporary deformation and reduction of diameter of the upper end of the spout so that the bead 25 can pass through.

Referring particularly to Figs. 6 and 7, to insert the spout the upper end thereof is brought up against the underside of the shoulder 18 and the spout so positioned that one of the corners 30 or 31 of the bead 25 (corner 30, as shown) is hooked over the shoulder 18, the inner edge of which is turned upwardly as best seen in Fig. 7. As thus positioned, the spout is tilted slightly (Fig. 7) and is then swung toward normal or axial position with respect to the collar. With the hooked corner 30 of the bead acting as a fulcrum, the entire bead 25 may be cammed through the collar, the latter being compressed so that the diameter of the outer end of the spout is reduced. A turning motion imparted to the spout as it is forced into position, resulting in a sort of screw action between the shoulder and bead, has proven particularly satisfactory. Since the deformation is slight, when the flange 24 has passed through the collar, the upper end of the spout returns to its normal diameter and thus the bead 25 is operative to positively prevent passage of the spout from the collar 14.

To prevent excessive compression of the upper end of the spout which might produce a permanent deformation thereof or a separation of the seam 21 and cause the spout to bind in the collar 14 adjacent the upper end of the seam, the metal is embossed or staked as at 34.

As herein shown (Fig. 3) the inturned lip 26 is positioned circumferentially of the spout and is divided by the overlapping edge portions 20 and 20a. To permit free relative movement between the edge portions when the tube is compressed during the inserting operation, they are preferably cut away as indicated at 32 (Fig. 6) so as to form a notch 33.

It will be seen that the construction of the peripheral flange 24, with a portion thereof turned inwardly to form the lip 26, facilitates the insertion of the spout into the collar 14 by minimizing the amount of deformation of the spout necessary to permit the passage of the bead 25 through the opening defined by the shoulder 18.

In addition to assisting in the inserting operation, after assembly, the lip 26 provides a convenient fingerhold to facilitate withdrawal of the spout 10 into pouring position. It will be noted upon reference to Fig. 2 of the drawings that the lip 26 is disposed slightly above the shoulder 18 when the spout is in its innermost position. Thus in the application to the lip of a force in an outward and upward direction, the spout will fulcrum slightly on the shoulder 18 with the result that a lifting force is transmitted to the side of the tube opposite the lip. In this manner the spout is prevented from tilting in the opening, which would cause it to bind therein and hinder withdrawal.

Adequate venting to permit rapid filling of a container in which the instant pouring spout is installed is provided by a pair of holes 35 disposed adjacent the top of the spout and located so that they are positioned below the shoulder 18 when the spout is in retracted position.

From the foregoing, therefore, it can be seen that an extensible pouring spout constructed in accordance with the present invention provides simple means for manipulating the spout, permits of ready insertion in a container top and having been inserted is positively retained therein, is of simple construction and may be manufactured economically.

I claim as my invention:

1. In a container having a top with an opening therein and a collar secured in said opening and providing an internal shoulder, a pouring spout comprising a blank of sheet metal bent into tubular form and having its edges overlapping and secured together for a portion of their length but unsecured adjacent the upper end thereof, a flange at the upper end of the spout having a portion curled outwardly to form a downwardly opening bead and an inturned portion, said bead terminating at points spaced from said unsecured edges and said inturned flange portion serving to expose the ends of said bead for engagement with said shoulder and constituting means for pulling the spout into extended position after assembly of the spout in said collar, said overlapping edges allowing slight deformation of said upper end of the spout and permitting said flange to be crammed through said opening upon application of a lateral force to the spout.

2. An extensible pouring spout for a container top having a collar secured thereto providing an internal shoulder, said spout comprising a blank of sheet metal bent into tubular form and having its edges overlapping and secured together at the lower end and unsecured at the upper end to render the spout compressible at such upper end, an outwardly extending flange on the said lower end of the spout, and a flange on the upper end of the spout having an outturned arcuate portion for coaction with the shoulder of the collar and a segment turned inwardly to facilitate insertion of the spout into said collar and to provide a finger grip to permit withdrawal of the spout after assembly with the collar.

3. An extensible pouring spout for a container top having a collar secured thereto providing an internal shoulder, said spout comprising a blank of sheet metal bent into tubular form and having its edges overlapping and secured together at the lower end and unsecured at the upper end to render the spout compressible at such upper end, an outwardly extending flange on the said lower end of the spout, and a flange on the upper end of the spout having an outturned arcuate portion for coaction with the shoulder of the collar and a segment turned inwardly to facilitate insertion of the spout into said collar and to provide a finger grip to permit withdrawal of the spout after assembly with the collar, said outturned flange being curled to form a downwardly opening arcuate bead and said inturned segment serving to expose the ends of said bead for engagement with said shoulder.

4. A container top having an opening therein and a collar secured in said opening and having

an inwardly and upwardly projecting shoulder, a pouring spout having a compressible upper end portion and an outturned flange at its lower end for coaction with said shoulder to limit withdrawing movement from the collar, the upper end portion of the spout being flanged to provide an outturned arcuate bead opening downwardly and an arcuate segment turned inwardly so as to expose the ends of the arcuate bead whereby one of said ends may be hooked over said shoulder when the spout occupies a position at a slight angle to the axis of the collar whereby to permit forcing of the spout through the collar by swinging it into axial position with respect to the collar.

5. For a container having a top wall, a collar secured in said top wall and having an inturned edge portion defining an annular shoulder, a spout comprising a tube axially slidable within said collar between retracted and extended positions, a flange at the upper end of the tube having a portion curled outwardly to engage said shoulder and limit inward movement of the tube and having an inturned portion providing a fingerhold, said inturned flange portion being disposed slightly above said shoulder when the tube is in its innermost position so that application of an outward and upward force thereon fulcrums the tube slightly on the shoulder to transmit a lifting force to the side of the tube opposite the inturned flange portion thereby preventing tilting and binding of the tube in the collar.

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