

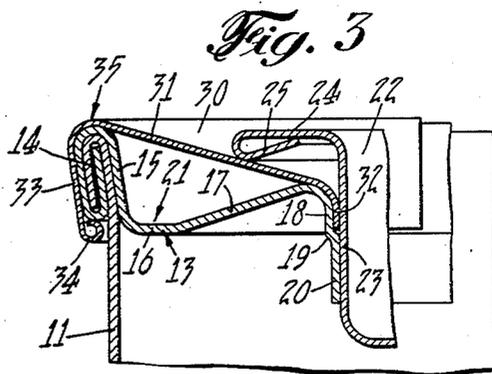
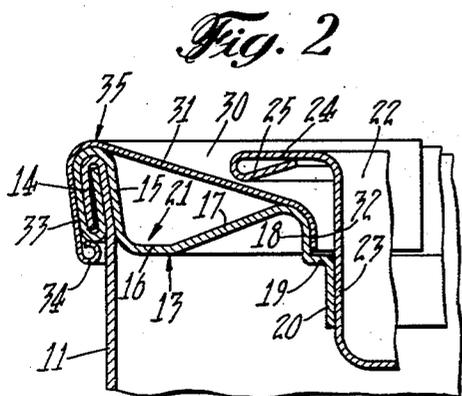
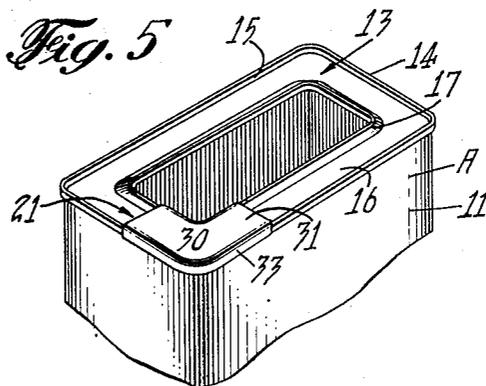
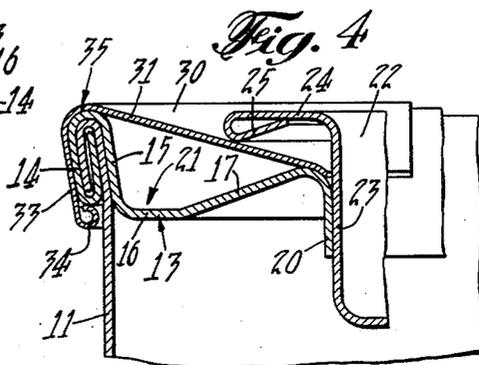
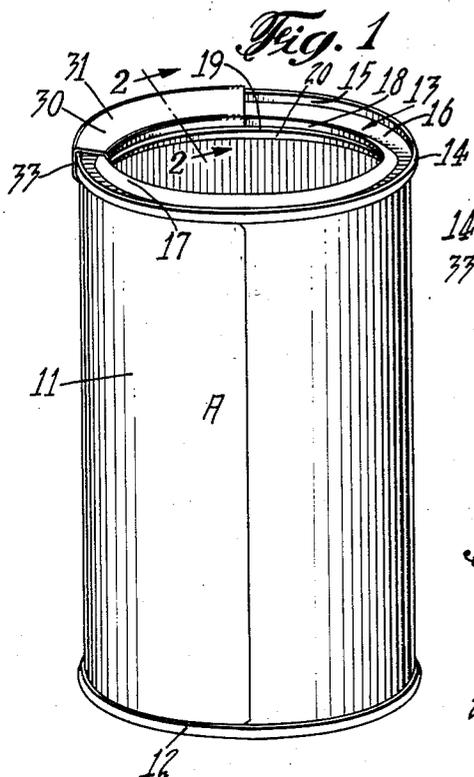
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POURING SPOUT FOR FRICTION PLUG CONTAINERS

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## POURING SPOUT FOR FRICTION PLUG CONTAINERS

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The present invention relates to containers, and has particular reference to a friction plug container and pouring spout assembly wherein the pouring spout is adapted to snap onto the friction ring of the container without interference with the friction plug.

The friction plug container is one of the most popular types of containers now on the market for the packaging of certain products. It is often used to hold such liquids as paints, varnishes, syrups, etc. which are poured directly from the container by the ultimate consumer. The friction ring which comprises the upper portion of the container and defines the filling and pouring opening is somewhat irregular in contour and tends to impart a turbulence to the stream of the liquid product which makes it somewhat difficult to direct. Then, too, the friction ring often is formed with a channel or annular recess which becomes at least partially soiled and/or filled with the product being poured unless it is constantly wiped clean. In order to eliminate these undesirable conditions, the present invention provides a pouring spout which snaps onto the upper end of the container and carries the contents across the friction ring in a smooth, controllable stream which is never in contact with the friction ring.

An object of the invention is the provision of a small, simple, and inexpensive one-piece pouring spout which may be easily attached to or detached from a container and has an inclined self-draining pouring wall which assists in securing the spout to the container.

Another object is to provide a friction plug container pouring spout assembly wherein the spout conforms to the general outline of the container portion to which it is attached before filling and remains thereon without interfering with the seating or unseating of the container closure.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a perspective view of a friction plug container and spout assembly with the friction plug closure removed;

Fig. 2 is an enlarged sectional detail taken substantially along a vertical plane indicated by the lines 2-2 of Fig. 1, the view also showing the friction plug closure in place on the con-

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tainer in fully seated position, parts being broken away;

Figs. 3 and 4 are sectional details similar to Fig. 2, but showing slightly modified forms of the invention, parts being broken away; and

Fig. 5 is a perspective view showing the spout as adapted for use with a rectangular container, with parts broken away.

In the preferred and exemplary embodiment of the invention, Figs. 1 and 2 illustrate a friction plug container A having a cylindrical sheet metal body 11, a bottom end member 12, and a friction ring 13 which is secured to the upper end of the body 11 in a projecting end seam 14 preferably of the double seam type.

The friction ring 13 (see Fig. 2) has an outer flange interlocked with a similar flange on the body to form the top seam 14 and has a countersink wall 15, which extends from the end seam 14 into the body 11 and along the inner surface of the body wall. Inwardly of the countersink wall 15 the metal of the ring is bent to form a horizontal wall section 16, which merges into an upwardly inclined reinforcing wall section 17. The wall section 17 curves into a downwardly directed vertical shoulder wall 18, which continues into a horizontal shoulder or offset 19 and finally terminates in a vertical friction wall 20. As can readily be seen from Figs. 1 and 2, the upper surface of the friction ring 13 has an irregular cross-sectional contour which includes an annular groove or channel portion 21.

The cylindrical wall 20 serves as a friction seat for a dish-shaped friction plug closure 22 which is formed with a cylindrical friction wall 23 and a horizontal flange 24, which at its outer edge is bent back upon itself to form a curl or hem 25.

In order to facilitate easy dispensing of the container contents, the instant invention provides a detachable pouring spout or guide bridge 30 which is adapted to snap into place on the upper end of the container A, and which, when so positioned, does not interfere with the seating of the plug closure 22. The spout 30 is arcuate in shape in order to conform to the arcuate shape of the friction ring 13 and preferably has a length of about 90° of arc. It is formed with a smooth, gently inwardly and downwardly inclined, sloping pouring wall 31 which extends from the top or peak of the end seam 14 to the top of the vertical or upright wall 18, thus bridging or spanning the channel 21.

The inner portion of the pouring wall 31 of the spout 30 merges or curves into a substantially

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vertical depending rear wall section 32 which lies flat against or frictionally engages the vertical wall 18 of the ring 13 and is spaced from and does not interfere with the friction plug wall 23 when the plug 22 is inserted to its normal seated position with its flange 24 level with or slightly below the top of the end seam 14 (see Fig. 2). The spout 30 also is provided with a resilient, substantially vertical front or outer wall 33 which preferably lies flat against the outer surface of the end seam 14. The upper portion of the wall 33 merges into the pouring wall 31 and the bottom portion terminates in an inwardly-rolled resilient curl or projection 34 which engages beneath the projecting end seam 14 in substantially linear contact.

As previously stated, the spout and the container are assembled by snapping the spout over the friction ring as shown in Figs. 1 and 2. The inherent resiliency of the metal of the spout permits the front wall 33 to yield during this operation. The spout is so dimensioned that the curl 34 is compressed slightly as it snaps into place beneath the projecting end seam 14 and thus the seam is tightly gripped between the curl 34 and the hook portion of the spout which contacts the upper portion of the seam and top of the countersink wall at 35. With the spout in this applied position, the container may be tilted into pouring position and the contents poured over the spout as desired. The tight annular contact over a comparatively large area between the vertical walls 18 and 32 prevents seepage of the container contents beneath the spout 30 during pouring. When the container is righted after pouring, the slope or inclination of the pouring wall 31 tends to cause any fluid which might adhere thereto to drain back into the container body.

It can be readily seen that the spout is securely attached to the container when in fully assembled position. Outward sliding movement of the spout is precluded by the contact between the vertical walls 18 and 32 and the fact that the hook portion 35 of the pouring wall 31 slopes downwardly behind and engages against the end seam 14 and countersink wall 15, while vertical movement is checked by the engagement of the curl 34 beneath the end seam 14. There is also no possibility of the spout being inadvertently detached from the container as a result of the accidental application of pressure upwardly against the bottom edge of the vertical wall 32. Such application of pressure would tend to cause the spout to rock or pivot about a point along the line of contact between the curl 34 and the end seam 14, but, due to the arcuate shape of the spout, the portions of the curl 34 adjacent the pivot point tend to move upwardly and press against and are held in place by the seam 14.

In the embodiment shown in Fig. 3, the vertical shoulder wall 18 is spaced from the friction closure wall 23 a distance which is substantially the thickness of the vertical spout wall 32. Thus the plug wall 23 contacts the spout wall 32 when the plug is seated on the container and locks it securely in position. This is an additional safeguard against accidental detachment of the spout due to possible rough handling during shipment.

Figure 4 illustrates another slightly modified form of the invention. In this construction the shoulder or offset 19 of Figs. 1, 2, and 3 is omitted and the sloping pouring wall 31 bridges the channel 21 and terminates in an inner edge that presses against and conforms to the ring adjacent the

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top of the friction wall 20. The inward and downward conical slope of the wall 30 behind the end seam 14 prevents the spout from sliding outwardly off the container body, and the spout is restrained from any upward or rocking movement in the same manner as the embodiment of Figs. 1, 2, and 3. The advantage of the construction shown in Fig. 4 is that it can be used on a standard friction plug container without necessitating any changes in the friction ring.

Figure 5 shows how the spout may be used in conjunction with an oblong container. Here the spout is substantially right-angled or L-shaped and is snapped onto a corner of the container. Apart from this change in shape, however, the spout is constructed exactly as are the embodiments of Figs. 1 to 4, and retains all of the features and advantages thereof.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A pouring spout for a container having a friction ring including a substantially vertical countersink wall united with the body of the container in a projecting end seam, said spout comprising a resilient front wall extending over the outer portion of the end seam, said front wall having a hook portion at the upper end thereof and extending inwardly and downwardly over the top of said seam and against the upper end of said countersink wall, an inward projection disposed at the bottom of said front wall and engaging beneath said end seam to cooperate with said hook portion for gripping said seam and countersink wall and thereby securing the spout on the ring, and a resilient pouring wall extending inwardly and downwardly from said hook portion of the front wall and bridging the top of said friction ring and terminating in an inner edge pressing against and conforming substantially to the inner edge of said friction ring to conduct a product over and above the ring and to prevent seepage of the product under the spout as it is poured from the container.

2. A container and pouring spout assembly, comprising a container body, a friction ring including a substantially vertical countersink wall secured to said body in a projecting end seam, said friction ring including a wall extending inwardly from the base of said countersink wall and merging with an annular substantially vertical friction wall spaced inwardly from said end seam, a detachable pouring spout, said spout including a resilient front wall engaging the outer portion of said end seam, said front wall having a hook portion at the upper end thereof and extending inwardly and downwardly over the top of said seam and against the upper end of said countersink wall, an inward curl disposed at the bottom of said front wall to engage beneath said end seam to cooperate with said hook portion for gripping said seam and countersink wall and thereby securing the spout on the ring, and an arcuate resilient pouring wall of said spout merging with and extending inwardly and downwardly from said hook portion, said resilient pouring wall terminating in an inner edge pressing against and conforming substantially to the top of said

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vertical friction wall thus bridging said inwardly extending wall to conduct a product over and above the ring and to prevent seepage of the product under the spout as it is poured from the container.

3. A container and pouring spout assembly, comprising a container body, a friction ring including a substantially vertical countersink wall secured thereto in an end seam and having a wall extending inwardly from the base of said countersink wall to an annular vertical friction seat wall of the ring, and an offset formed in the upper portion of said friction seat wall and connected to said inwardly extending wall by a substantially upright wall, a detachable pouring spout, said pouring spout including a front wall having its bottom edge bent inwardly to engage beneath said end seam, said front wall having a hook portion at the upper end thereof and extending inwardly and downwardly over the top of said seam and against the upper end of said countersink walls, an inclined pouring wall merging with and extending downwardly and inwardly from said hook portion of the front wall, said resilient pouring wall terminating in an inner edge pressing against and conforming substantially to the top of said upright wall to prevent

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seepage of the product under the spout as it is poured, and a rear wall depending from the inner edge of said pouring wall and engaging said upright wall further to prevent seepage of the container contents under said spout, and a friction plug having a vertical annular friction wall engaging the friction seat wall of said ring, said upright wall being offset from said friction seat wall by not less than the thickness of the material of said rear wall so that as said friction plug is seated in said ring it is unimpeded by said rear wall of the spout said upright wall and said spout depending wall being disposed outwardly of said friction plug vertical wall.

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