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2,782,967

SCREW-ON POURING SPOUT

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FIG. 1.

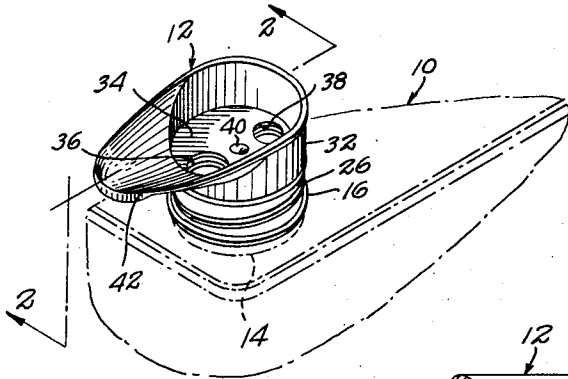


FIG. 2.

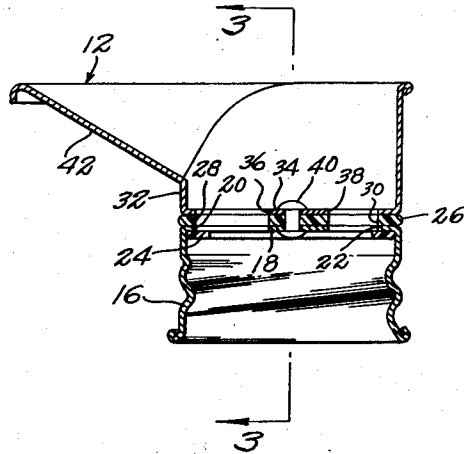


FIG. 3.

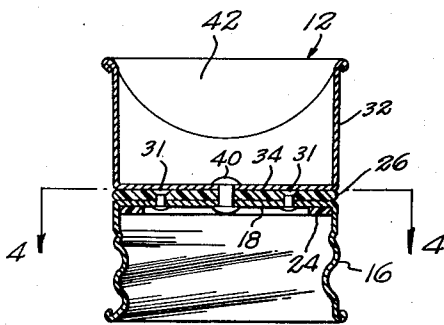
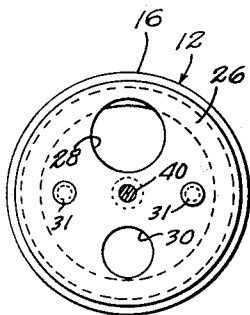


FIG. 4.



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**SCREW-ON POURING SPOUT**

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2 Claims. (Cl. 222-485)

This invention relates to pouring spouts for containers, and more particularly has reference to a pouring spout that is adapted to be substituted for the conventional, screw-on cap with which many containers are normally equipped.

Often, containers are equipped with screw-on caps which may have coarse threads, the caps being formed from sheet metal or the like, and being removed entirely while the liquid contents of the container are being poured through the cap-receiving neck thereof. Containers so equipped would be, for example, variously sized containers of motor vehicle oil, varnish cans of large size, etc.

Obviously, it is desirable when the containers are not being used that they be tightly capped, since many times, the contents are highly volatile and may tend to evaporate, spread fumes, etc. Still further, it is desirable to facilitate the pouring of the contents from the containers, and of course, the ordinary screw-on cap does not aid in this respect in any way, since the cap must be removed entirely from the container neck while the contents are being poured.

While it has been heretofore proposed to provide revolvable pouring spouts for containers of the type referred to, so far as is known all the spouts heretofore devised have required that there be a specially designed formation of the container neck, and it has not been heretofore proposed to provide a pouring spout which is a true replacement for the screw cap ordinarily provided by the container manufacturer as a conventional part of the container, with the replacement spout being adjustable, when attached to the container neck in place of the screw cap, to one position in which it permits pouring of the contents from the container, and to a second position in which it seals the container.

The main object of the present invention is to provide a pouring spout which will have the desirable characteristics noted above, thus to constitute a distinct improvement over the prior art.

Another object of importance is to provide a replacement cap for containers in the form of a pouring spout which will not require modification or redesign of the container in any manner.

Still another object is to provide a replacement cap for containers in the form of a pouring spout which will be so designed as to not require that the user punch pouring and vent holes therein.

Another object is to provide a cap as stated which may be closed or opened by being rotated to selected positions, with the rotation of the device in either direction being accomplished with ease and facility, the rotation of the pouring spout to a closed position being so designed as to insure against leakage or evaporation of the container contents.

Still another object is to provide a replacement cap for containers which can be manufactured at low cost, but will nevertheless be efficient in use, so as to permit reuse of the pouring spout a number of times if desired.

Other objects and advantages will become apparent from a consideration of the following description and the appended claims in conjunction with the accompanying drawings, wherein:

5 Figure 1 is a perspective view of a pouring spout formed according to the present invention, a container on which said spout is mounted being illustrated fragmentarily, in dotted lines;

10 Figure 2 is an enlarged longitudinal sectional view through the spout per se, on line 2-2 of Figure 1;

Figure 3 is a sectional view on line 3-3 of Figure 2; and

Figure 4 is a transverse sectional view on line 4-4 of Figure 3.

15 The reference numeral 10 has been applied generally to a conventional container, such as a container for varnish, motor vehicle oil, and the like. Such a container is conventionally equipped with an upstanding, low, neck 14, having coarse threads to permit, ordinarily, a screw-on cap, not shown, to be attached to the neck.

20 The device constituting the present invention has been generally designated at 12, and is used as a replacement for the screw-on cap ordinarily provided upon the container when the container is sold. The replacement spout generally designated at 12 includes, at its lower end, a depending, threaded skirt 16, the threads of which are adapted to mate with the threads of the neck 14, so that the ordinary screw-on cap may be discarded, and the skirt 16 attached, in its stead, to the upstanding neck 14. The skirt 16, at its upper end, is integral with a flat, circular wall 18, and said wall has diametrically opposite openings 20, 22. The opening 20 constitutes a pouring opening, while the opening 22 constitutes an air vent opening. Hence, the pouring opening is substantially larger in diameter than the opening 22.

25 Underlying the marginal portion of the top wall 18 of the threaded, dependingly flanged base of the pouring spout is an annular, compressible gasket 24 of leak-preventing material, such as cork, rubber, or the like. When the replacement spout is applied to the neck 14, the base is turned home as tightly as possible upon the neck, so as to compress the gasket 24 against the upper end of the container neck. Thereafter, the rotatable base is no longer rotated nor is it subsequently necessary to remove the same, as will be presently apparent from a discussion of the operation of the device.

30 Overlying the top wall 18 is a flat, circular washer 26. This is also a leak-preventive material of a regularly soft, compressible nature. For example, felt may be used, it being understood that the felt would be held under slight compression so as to insure against leakage.

35 In any event, the leak-preventing washer 26 is formed with diametrically opposed openings 28, 30 registering with the openings 20, 22. The washer, in this connection, is secured fixedly to the cup-like threaded base 16 of the pouring spout by means of diametrically opposed rivets 31 passing through the washer 26 and the top wall 18 of the base, the rivets being angularly spaced 90 degrees from the respective registering openings of the base and washer.

40 The rivets, as it will be understood, are such size as to place the washer under slight compression, thus to prevent leakage between the underside of the washer and the top surface of the base.

45 A rotatable cup member 32 is supported upon the washer 26, and has a cylindrical body portion integral at its lower end with a bottom wall 34 in contact with the upper surface of the washer 26. The bottom wall has diametrically opposed openings 36, 38 which, in one position to which the cup member is rotated, register with the corresponding openings of the washer and base. A rivet or pivot pin 40 extends through the base, washer,

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and cup member, centrally thereof, to rotatably mount the cup member upon the relatively stationary washer and base. The rivet 40 is of such a length as to cause the cup member to bear firmly against the upper surface of the washer, thus to further place the washer 26 under compression, thus to prevent leakage between the top surface of the washer 26 and the underside of the bottom wall 34 of the cup member.

The cup member, at its open, upper end, has a spout element 42 integrally formed thereupon, to facilitate pouring of the liquid contents of the container when the cup member has been rotated to its open position shown in Figures 1 and 2.

In this open position of the cup member, the several air vent and pouring openings are in registration, and thus the contents can be poured out of the container with ease. Subsequently, the cup member need only be rotated through 90 degrees, more or less, to cause the openings 36, 38 to move out of registration with the corresponding openings 26 and base 16. Since the washer 26 is held under compression between the base and the cup member, leakage will be effectively prevented, so that the container will remain sealed.

The device, of course, is used as a substitute for the ordinary screw-on cap which is provided upon the container, and said cap may be discarded immediately after the spout device has been attached to the container neck. The container remains sealed when not in use, to prevent evaporation or leakage of the contents, and when the contents are to be poured out, the spout measurably facilitates the operation, of course. At the same time, it is not necessary that the user exert any manual effort to punch holes, vents, or the like in the container or in the cap device. Still further, the device can be manufactured at low cost, and does not require modification or redesign of the container in any way.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A replacement cap for a container having an upstanding threaded neck comprising a base of inverted cup shape, said base including a flat, circular top wall and a depending, threaded skirt adapted to engage the neck of the container, said base including an annular gasket of

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compressible, leak-preventive material confined by the skirt and adapted to engage between the neck of the container and the marginal portion of said top wall on threading of the skirt onto the container neck, the top wall of the base having diametrically opposed pouring and vent openings; a flat washer formed to a diameter approximating that of the top wall and having spaced openings registering with those of the top wall, said washer being fixedly secured to the top wall and being held under slight compression against the top wall so as to prevent leakage between the top wall and washer; and an upwardly opening cup member rotatably mounted upon the washer and base, said cup member including an outwardly projecting spout and having spaced openings registering in one position of the cup member with the openings of the washer and base to permit pouring of the container contents, said cup member bearing against the upper surface of the washer to hold the washer under slight compression, thus to prevent leakage between the washer and the cup member.

2. A replacement cap for a container having an upstanding threaded neck, comprising: a base of inverted cup shape including a circular top wall having diametrically opposed pouring and vent openings, and a depending peripheral skirt threaded for engagement with said neck; a washer of leak-preventive material overlying and formed to a diameter approximating that of the top wall, said washer having diametrically opposed openings registering with those of the top wall; an upwardly opening cup member having a circular bottom wall overlying the washer and formed with openings registrable with those of the base, a cylindrical side wall projecting upwardly from the bottom wall and formed to a diameter substantially matching that of the skirt, and a spout element having a fixed connection at its inlet end to the periphery of the side wall at a location thereon elevated above the bottom wall, said spout element projecting radially outwardly from the side wall; and a pin extending through said top wall, washer, and bottom wall axially of the skirt and side wall and connecting the cup member to the base for rotation relative to the base to and from a position in which the openings of the cup member are registered with those of the base.

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