UNITED STATES PATENT OFFICE

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DISPENSING SPOUT EQUIPPED CONTAINER

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2 Claims. (Cl. 222—569)

1. The present invention relates to or concerns certain novel and innovatory physical features and functional characteristics in the discharge spouts of pouring containers.

2. A thin rigid member which constitutes part of the container of the goods to be dispensed has an inwardly tapered, downwardly projecting, tubular section into which a portion of a plastic spout is introduced and fastened firmly in position so that the spout is adequately and properly held in place under all circumstances, such passage into the container being employed before accommodating such part of the spout for filling the container with its dispensable material, for example a liquid substance.

In order that those acquainted with this art may readily understand the current invention and its various advantages, a present preferred embodiment of the same has been shown in the several figures of the accompanying drawing forming a part of this specification, and in the plurality of illustrations of which like parts have been supplied with corresponding numerals.

In the plurality of illustrations of this drawing: Figure 1 is a perspective picture of the complete liquid holding receptacle, such as an oil can or other spout dispensing container; Figure 2 is a partial longitudinal section on line 2—2 of Figure 1 through the filled tin can receptacle and its plastic discharge spout ready for shipment or delivery to the user but not yet in condition for discharge of the contents of the can; Figure 3 is a partial similar section through a portion of the spout and a part of the metal end-wall of the can or liquid holder illustrating the manner of mounting the spout on the can; Figure 4 shows the three parts of the structure in separated relation before union thereof together; Figure 5 constitutes a top plan view of the assembled elements of the spout-equipped liquid-filled sheet-metal container before its spout has been used for discharge purposes; and Figure 6 presents a side view of the spout supplied with a removable end cap closing its top end after such end has been manually cut off to render it useable as the discharge element.

As will be readily understood from the drawing the main body of the flexible sheet-metal container or can 21 for the oil or other material, not necessarily liquid, to be dispensed has a rigid sheet-metal top-wall 22 with a marginal flange 23 overlapping the top end of the metal wall 21 and soldered or otherwise appropriately fixedly and securely fastened thereto after or before the receptacle 21 has been initially filled with its contents.

This rigid top metal member 22 which constitutes part of the liquid housing container 21 has integral therewith a suitably located, inwardly tapering, downwardly projecting section or wall 24 (Figs. 2, 3 and 4) open both at its top and bottom through which the contents of the can may be introduced thereinto and also in which opening the base portion of the plastic hollow spout 25 of the form and shape clearly depicted in Figure 2 with an initially closed upper end 26 integral with the material of the spout is fastened, and an intermediate, outstanding, circular flange portion 27 and a depending annular part 28 equipped at its marginal inner end with an outstanding rim 29.

To accomplish the assembly of the plastic spout 25 with the metal top 22 of the can a ring-die, not shown, is used to press down the spout portion 27 on the large flat part 22 of the main body of the spout above its annular portion 28, the diameter of such die being less than the diameter of the hole through the member 22 so that the plastic portion of the spout acted upon is forced through the hole and will snap back and thereby be held tightly in place, as shown in Figure 2, the application of the spout to the container top being indicated in Figure 3 although the ring-die employed is not illustrated in such figure. The spout preferably, but not necessarily, being made of polyethylene plastic or vinyl resins so that when the punch is pressed down on the plastic to drive it into the opening of the container it actually elongates the plastic so that the lower end of the plastic passes appreciably beyond the lower edge of the rigid member 24 through which it is being forced and the flange on the lower end of the plastic then opens out automatically beyond the diameter of the hole through which it was pressed, and when the pressure of the punch is released the plastic pulls back thus keeping a constant tension against the lower edge of the rigid member 24 assuring proper maintenance of the spout in its final expanded strained condition.

This plastic portion 25 is such that it can be bent, wherefore the exposed externally elongated portion of the spout can be bent back into normal position which it will retain, as shown in Figure 2, and remain therein.

Inasmuch as passage through the spout is initially closed at its top end at 26 by an integral part of the plastic material there is no leakage of the contents of the container until the dis-
pensing of such contents is to be initiated and undertaken, and at that time the end portion 26 is manually cut off so that the passage through the spout is then open and ready for use.

When not in actual dispensing operation a readily detachable cap 31 may be closed over the end of the spout, such cap being removed temporarily whenever the spout is to be used to perform its pouring function.

The closure cap 31 may be of such size as to grasp the end of the spout 25 sufficiently so that it will not be accidentally displaced.

It should be fully understood that inasmuch as the rigid member 22 which forms part of the container has the inwardly tapered, downwardly projecting round section 24 of uniform depth integral therewith and into which the plastic spout is fastened, to accomplish this assembly a ring-die is employed which presses down on the plastic material, the diameter of such ring-die being less than the diameter of the hole in the rigid member 22 so that the plastic is deformed and forced through the space which it traverses, it necessarily tends to snap back and thereby holds tightly together the spout construction so that when the punching die or body is pressed down on the plastic to drive it into the opening of the container it actually elongates the plastic material whereby the lower end of the plastic member passes appreciably beyond the lower edge of the rigid member 24 and the flange on the lower end of the plastic then opens up beyond the diameter of the hole, and when the pressure of the punch is released the plastic pulls back thus keeping a constant tension against the rigid member by the spout material.

It will, therefore, be appreciated that the passage into the container formed by the round tapered wall 24 accomplishes a double or duplex function. First, the liquid may be poured through the opening into the can before the spout passage has been opened and then it securely holds the spout both before and after it initiates its pouring function.

Whereas various details of construction have been presented in the drawings and set forth in the above description, it is to be understood that various modifications may be resorted to without departure from the heart and essence of the invention as presented in the following claims and without the loss or sacrifice of any of its material or substantial benefits and advantages.

I claim:

1. A dispensing container including a closed receptacle having a substantially flat top wall, said top wall having an aperture therein and an inwardly and downwardly directed flange surrounding said aperture and attached to said top wall, and a resilient plastic pouring member positioned in said aperture and closing said aperture, said pouring member including an attachment portion having a central opening therethrough, said attachment portion being substantially cylindrical in shape, a first outwardly directed attachment flange formed on one end of the attachment portion and overlying said top wall around the aperture therein, a second outwardly directed attachment flange formed on the other end of said attachment portion and covering the free edge of said top wall flange, and a hollow spout formed integral with said attachment portion, the hollow central portion of the spout connecting with one end of the central opening in said attachment portion, the distance between said first and second attachment flanges being slightly less than the distance between the top wall and the free edge of the top wall flange and with one of said attachment flanges under deformation whereby to place said resilient attachment portion under stress to urge the first attachment flange against the top wall and the second attachment flange against the free edge of the top wall flange to give sealing therebetween.

2. A dispensing container as claimed in claim 1, wherein the inwardly and downwardly directed top wall flange is conical in shape and wherein the adjacent attachment flange engages the free edge thereof.

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