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J. M. HOTHERSALL  
POURING SPOUT CONTAINER

2,104,744

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Fig. 2

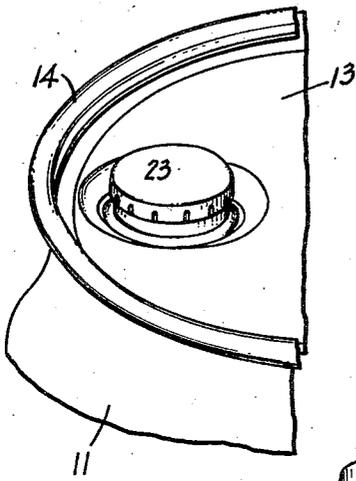


Fig. 1

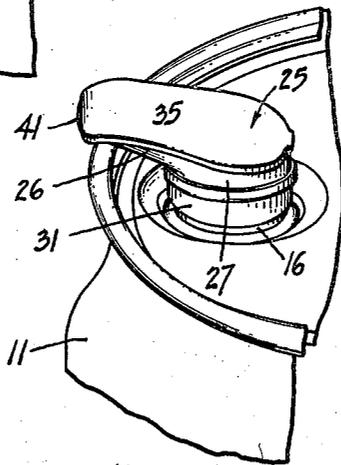


Fig. 3

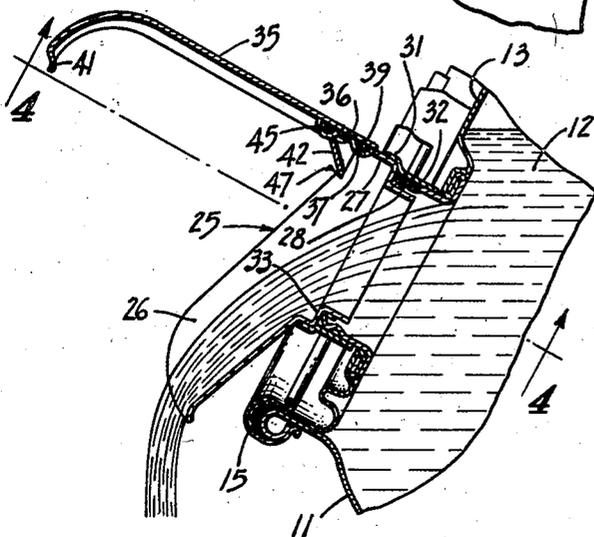


Fig. 4

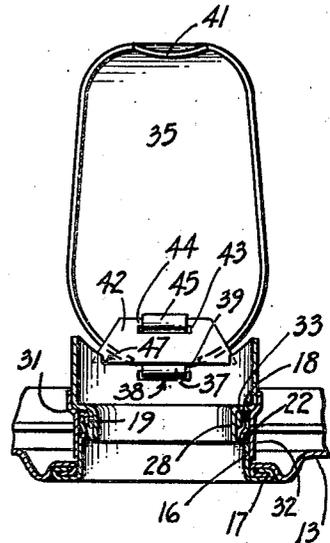


Fig. 5

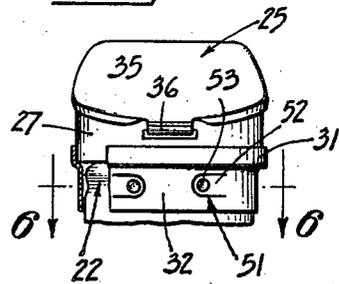
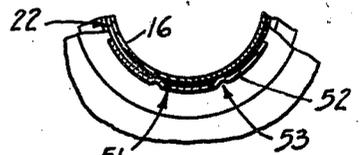


Fig. 6



INVENTOR  
John T. Hothersall  
BY  
Loan D. Thornburgh  
Chas. H. Case  
ATTORNEY

# UNITED STATES PATENT OFFICE

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## POURING SPOUT CONTAINER

John M. Hothersall, Brooklyn, N. Y., assignor to  
American Can Company, New York, N. Y., a  
corporation of New Jersey

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9 Claims. (Cl. 221-23)

The present invention relates to container dispensing and has particular reference to containers or cans for liquids which are provided with nozzles or the like through which the liquid contents may be dispensed and to attachable pouring spouts which may be removably assembled on to the nozzles in rigid pouring engagement.

An important object of the invention is the provision of a pouring spout for a nozzle can which is applied to the nozzle to direct the flow of liquid contents of the can during discharge, the union between spout and nozzle providing a rigid connection for pouring without interfering with free rotative movement of the spout or with its complete removal when desired.

A further object of the invention is the provision of a nozzle can for liquids which may be sealed at the nozzle for shipping and after opening provides a can which is adapted to receive a pouring spout assembled onto the nozzle in a joint which rigidly holds the spout in outward pouring position so that the liquid contents of the can is dispensed by way of the spout without leakage the spout assembly being such as to direct back into the can any residual liquid clinging to the spout following a pouring action.

Another object is the provision of a pouring spout nozzle can of the character described which provides a directed pouring action during dispensing after which the spout itself provides a reclosure for the opened can, in which case the spout may be turned to inward non-pouring position.

Another object of the invention is the provision of an attachable and removable pouring spout for a nozzle can which is provided with a hinged cover that is snapped securely into closing position on the spout between dispensing actions and that functions as a can reclosure the hinged cover being positively held in an open position when the pouring spout is used for dispensing the can contents.

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 drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a fragmentary perspective view of a nozzle can and a pouring spout applied to the nozzle and embodying the present invention;

Fig. 2 is a fragmentary perspective view of the can of Fig. 1 showing it initially closed for shipment and prior to application of the pouring spout;

Fig. 3 is a fragmentary enlarged sectional view taken through the nozzle, associated part of the can and through the applied pouring spout on the nozzle the hinged cover of the spout being shown in raised position;

Fig. 4 is a sectional view of the pouring spout and nozzle as viewed substantially along the line 4-4 in Fig. 3; and

Figs. 5 and 6 are illustrations of a modified form of pouring spout, Fig. 5 being a rear view of the modified spout as applied to the nozzle of a can with parts being broken back, and Fig. 6 being a view in horizontal section taken substantially along the line 6-6 in Fig. 5.

The preferred embodiment of the present invention as illustrated in Figs. 1 to 4 of the drawing comprises a can 11 which may be of any desired shape for packaging or containing liquid contents 12. The upper end of the can may be closed by a suitable cover member 13 which is preferably secured to the can by a sealing band 14 which is clamped onto and holds the cover member in a tight sealing engagement, which in some instances may include an annular gasket 15 confined in the joint or between the cover and the outwardly beaded upper end of the container body.

The cover member 13 is provided with a dispensing outlet such as a nozzle 16 secured thereto in a double seamed joint 17 or the like. The top or outer part of nozzle 16 is preferably curled inwardly to form a rim as at 18 and thence downwardly in an inner wall member or flange 19, which in the construction herein shown is spaced inwardly from the outer upper rim edge of the nozzle. An annular groove 22 may also be formed in the outer wall or body of the nozzle adjacent its rim edge. When a filled can is first closed to confine its liquid contents 12, nozzle 16 provides a seat for a sealing cap 23 of any suitable construction. Such a cap is quite a usual form of seal for nozzle cans, the lower edges of the cap being adapted for crimping engagement within the annular groove 22 of the nozzle.

When the liquid contents of the can are to be dispensed the can is opened by removal of the cap 23 as by an outward bending or springing of its crimped or clinched depending peripheral flange and the cap is then discarded and replaced by a pouring spout indicated generally at 25 (Fig. 1). The spout 25 includes an elongated trough-like pouring lip 26 which is laterally extended from an open annular body part 27. The pouring spout is or may be applied to the can by pressure alone and as the spout en-

gages the open nozzle an inner reduced wall member 28 of the spout enters into the opening of the nozzle to bear with frictional engagement against the depending annular nozzle flange 19 which latter obviously is possessed of certain resiliency.

The pouring spout 25 also includes a ring part 31 which is secured to the spout in any suitable manner and so as to function as an integral part thereof. This ring extends down or outwardly from the spout body 27 in a skirt part or outer wall 32 which is concentric to and spaced from the inner spout body wall 28.

In its applied position the pouring spout 25 of Figs. 1 to 4 inclusive rests directly on the nozzle rim 18, a web 33 which is the connecting element between the wall 28 and the spout body portion 27, being in close engagement with the nozzle rim. The outer wall 32 of the assembled spout is in frictional engagement with the outside wall or neck of the nozzle and this engagement together with the aforesaid engaged parts of spout and nozzle provide a detachable yet rigid connection between the two which is sufficient for all pouring conditions including the supporting of a large part of the weight of a filled container on the spout itself during dispensing of the liquid contents, without dislodging it from the nozzle.

An elongated spout cover 35 substantially conforming in configuration to the trough-like pouring member 26 is hinged at one end to the spout body 27. For this purpose a hinge plate 36 is secured to the under face of the cover and is bent at one end into a hinged socket 37. This socket end extends through and has hinging movement within a slot 38 cut in the rear wall of the spout body. A pintle part 39 is thus produced in the spout body wall over the slot 38 and provides the hinging support for the spout cover.

The opposite free end of the spout cover 35 is preferably formed with an inwardly bent spring latch portion 41 which is adapted to snap under the outer extremity of the trough-like pouring member 26 when the cover is moved into spout closing position. This spout cover is so shaped and dimensioned as to completely enclose the entire upper or open end of the spout. Fig. 1 illustrates cover 35 in spout closing position and Figs. 3 and 4 show the same after it has been raised to uncover the spout lip.

Provision is made for positively holding the spout cover 35 in raised position so that it will not obstruct the free flow of liquid 12 through the spout during emptying of the container. For this purpose a support plate 42 is provided. Plate 42 is slotted at 43 and the adjacent edge section of the plate as at 44 serves as a pintle for a hinging connection with the hinged plate 36. The latter opposite to the formed socket 37 is curved to form a pintle socket member 45 which has hinging movement within the slot 43 and over the pintle 44.

The upper edges of the side walls of the pouring lip 26 on opposite sides are notched at 47 and when the spout cover 35 is disengaged at its snap end 41 and is swung back into open position, the support plate 42 is carried to a position above the edges of the spout lip and falls into the notches 47 formed therein. This holds the spout cover in the position illustrated in Figs. 3 and 4 and allows for free pouring action of the liquid contents of the can, which pouring action is effected by tilting the can in the usual manner. The liquid passing out through the nozzle 16 and through the depending spout wall 28 and

thence over the spout lip 26 is discharged from the end of the lip in a controlled stream as best shown in Fig. 3.

After the dispensing action the spout cover 35 is hinged back a little further which movement frees its lower edge from the spout and the support plate 42 thereupon falls down inside of the spout as the can is again righted. Any liquid which may adhere to the trough of the pouring spout lip 26 drains back along the lip and over the web part 33 of the spout and back through the annular spout portion 28 and into the can. This prevents any undesired spilling of the liquid on the top of the can.

The tight frictional engagement of the wall part 28 of the spout with the nozzle flange 19 is advantageous in that it permits free outward flowing of the liquid contents through the pouring spout without leakage at the joint between spout and nozzle and in like manner prevents leakage of draining liquid returning back into the can after the pouring action.

The spout illustrated in Figs. 5 and 6 is similar in all respects to the spout previously considered with the exception of the depending outer spout wall 32. In this modified form the wall 32 is enlarged so that there is not the same frictional engagement between the wall proper and the outer wall of the nozzle 16. This modified wall 32 is pierced by lines of severance 51 which isolate and produce swing-like tongues 52 formed in the spout wall.

Protuberances 53 are preferably struck or bent inwardly at the free ends of the tongue parts 52 as best shown in Fig. 6. When this form of spout is applied to the nozzle the protuberances 53 yieldingly spring over the nozzle wall and snap into and seat themselves in the nozzle groove 22. This provides sufficient frictional contact between the spout and nozzle at this locality to afford the desired rigidity to the spout for pouring. It is to a certain extent more readily detachable from the nozzle when the spout is taken off. The inner nozzle wall 28 of this form of spout as in the other form, functions in exactly the same manner to assist in forming the desired joint between spout and nozzle.

In either form of pouring spout the latter may be turned or rotated on its seat on the nozzle. This permits moving the outer lip end of the spout toward the center of the can cover 13 or away from the pouring position so that the spout will not extend beyond the upper rim of the closed can. The spout of either construction has also the added advantage of convenient removal.

To remove the spout from the nozzle it is merely necessary to grasp it and pull it off of its seat, there being no confining parts to prevent or retard such removal. The modified spout form of Figs. 5 and 6 when removed yields sufficiently for its frictional tongues 52 to spring back to free the protuberances 53 from the channel 22 of the nozzle.

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 container comprising a nozzle having inner and outer concentric walls adjacent its rim edge, 75

a pouring spout removably engaged with said nozzle, said spout comprising a pouring lip and spout body, the latter being formed with spaced inner and outer concentric walls, the former having frictional engagement inside of said nozzle when the pouring spout is secured to the container, and resilient means associated with said outer concentric spout wall for engaging outside of said nozzle adjacent its rim edge to hold the spout in position for pouring.

2. A container comprising a nozzle having inner and outer concentric walls adjacent its rim edge, a pouring spout adapted for detachable and rotatable assembly with said nozzle to effect directed discharge of the can contents, said spout comprising a pouring lip and a spout body, the latter being formed with spaced inner and outer concentric walls which frictionally engage respectively inside and outside of said inner and outer concentric nozzle walls when the spout is assembled and which hold the spout in position for pouring, the frictional engagement between said spout and nozzle affording free rotation therebetween to locate the spout in pouring or in non-pouring positions.

3. A container comprising a nozzle having spaced concentric walls adjacent its rim edge, a pouring spout adapted for removable and rotatable assembly with respect to said nozzle to effect directed discharge of the can contents, said spout comprising a laterally projecting pouring lip and an annular spout body, the said body being formed with spaced inner and outer concentric walls substantially continuous and dimensioned and formed for frictional engagement inside and outside of said spaced nozzle walls to yieldably hold the spout in position for pouring, the frictional engagement of said spout with said spaced nozzle walls affording free rotation of said spout relative to and on said nozzle into pouring and non-pouring positions.

4. A container comprising a nozzle having inner and outer concentric walls adjacent its rim edge, a pouring spout adapted for removable connection to said nozzle, said spout comprising a laterally extending pouring lip and a circular spout body which is formed with spaced concentric walls joined with an annular connecting web, said spout walls respectively frictionally engaging within and exteriorly of said inner and outer concentric and continuous nozzle walls and said connecting web closely engaging said nozzle rim when the spout is positioned for pouring, the described frictional engagement of spout and nozzle permitting free rotation therebetween to pouring and non-pouring positions and also permitting removal of said spout from said nozzle.

5. A container comprising a nozzle having spaced concentric walls adjacent its rim edge, a pouring spout adapted for removable connection to said nozzle to effect controlled discharge of the can contents, said spout comprising a pouring lip and a spout body, the latter being formed with spaced concentric walls which frictionally engage within and against each of said concentric nozzle walls when the spout is assembled and which hold

the spout in position for pouring, said walls being opposed to each other around the nozzle, and a spout cover hinged to one side of said spout body and adapted to normally enclose the said spout lip.

6. A container comprising a nozzle having inner and outer concentric walls adjacent its rim edge, a pouring spout adapted for removable connection to said nozzle to effect controlled discharge of the can contents, said spout comprising a pouring lip and a spout body, the latter being formed with spaced inner and outer concentric walls which frictionally engage respectively inside and outside of said inner and outer concentric nozzle walls when the spout is assembled and which hold the latter in position for pouring, such frictional engagement of spout and nozzle affording rotation of the spout on the nozzle to locate the former in pouring and non-pouring positions, a cover hinged to one side of the spout body and adapted in one position to enclose the spout lip, and means connected with said spout cover and extending sidewise and engaging the nozzle for holding the cover in open position during discharge of the can contents.

7. A container comprising a nozzle, a pouring spout removably mounted on said nozzle, said spout having spaced inner and outer concentric walls opposed to each other at substantially all points and said inner wall frictionally engaging the nozzle opening and said outer wall positioned over and outside of the wall of the nozzle, said inner spout wall directing the liquid contents of the can through said pouring lip during the pouring operation and directing any residual liquid which is not discharged from said lip to drain back through the said inner spout wall through the opening in the nozzle and into the interior of the container.

8. A container comprising a nozzle, a pouring spout adapted for assembly with said nozzle to effect discharge of the can contents, said spout comprising a pouring lip and an annular spout body, the latter having frictional engagement within the walls of said nozzle, a cover hinged to one side of the said spout body and adapted in one position to enclose the spout lip, and a support plate hingedly connected with said spout cover and extending sidewise and having engagement with said spout lip for holding it in open position during discharge of the can contents.

9. A container comprising a nozzle, a pouring spout adapted for removable connection to said nozzle to effect discharge of the can contents, said spout comprising a pouring lip and an annular spout body, the latter having frictional engagement within the walls of said nozzle, a cover hinged to one side of the said spout body and adapted in one position to enclose the spout lip, means pivotally mounted on said cover extending across the spout and engageable with the lips of said spout for holding said spout cover in open position and means for yieldably holding said cover in enclosing position over said lip.

JOHN M. HOTHERJALL.