Dec. 6, 1949 L. L. HOUCK 2,490,303

DISPENSING CONTAINER WITH COLLAPSIBLE LINER

Filed Aug. 14, 1945

Fig. 1.

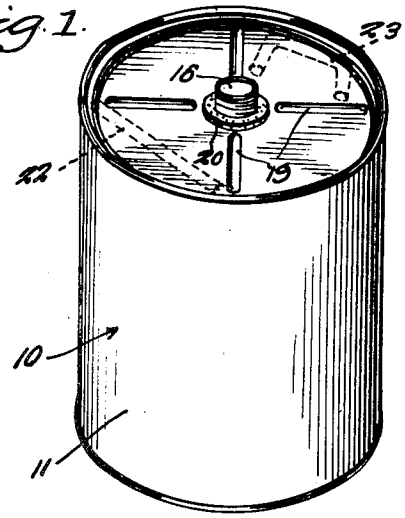


Fig. 2.

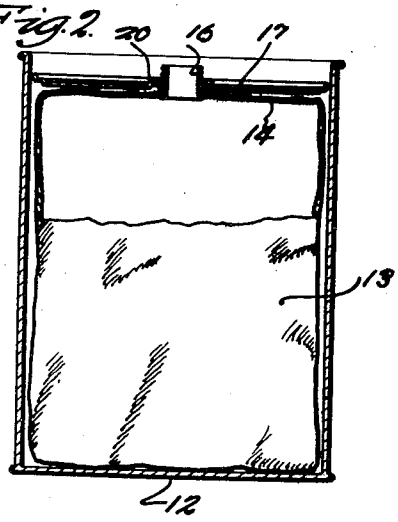


Fig. 3.

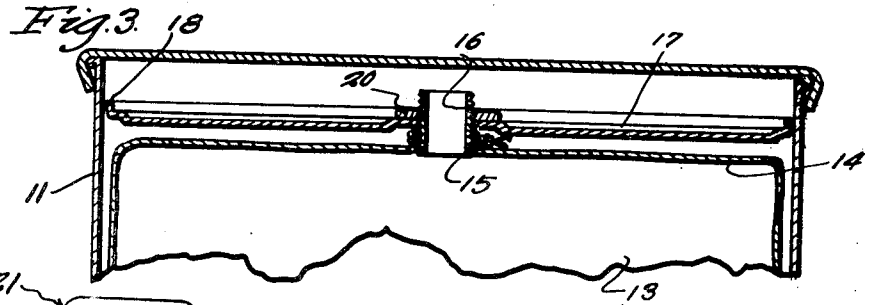
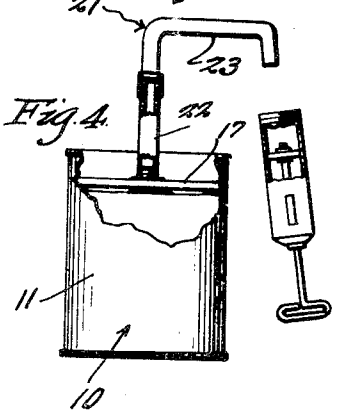


Fig. 4.



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DISPENSING CONTAINER WITH COLLAPSIBLE LINER

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7 Claims. (Cl. 222—95)

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This invention relates to a dispensing device and more particularly to a can in which oils and grease may be shipped and from which said substances may be readily removed.

The primary object of the invention is to insure cleanliness in handling oils and grease such as lubricants employed in the lubrication of motor vehicles, and the like.

Another object is to facilitate the loading of grease guns and similar pieces of equipment with the contents of the can.

A further object of the invention is to avoid leakage of the can's contents during the filling of a grease gun or like piece of equipment.

The above and other objects may be attained by employing this invention which embodies among its features a shipping container in the form of a cylindrical body which is wholly open at its top and adapted to be closed by a removable cover, a collapsible liner fitted in the tubular body and forming a closed bag of flexible material having a dispensing outlet in its top which aligns with the longitudinal axis of the outer container, a dispensing nipple surrounding the outlet, and a follower of a size readily to telescope within the outer container but covering the entire outer end of the liner surrounding the nipple whereby pressure applied to the follower will cause the contents of the liner to be extruded through the nipple for discharge either into a discharge spout or directly into the barrel of a grease gun or similar piece of equipment.

In the drawings:

Figure 1 is a perspective view of a dispensing device embodying the features of this invention showing the cover removed from the shipping container,

Figure 2 is a longitudinal sectional view through the device illustrated in Figure 1,

Figure 3 is an enlarged detail fragmentary sectional view through the upper end of the device, and

Figure 4 is a side view of the dispensing device showing the dispensing nozzle in position thereon.

Referring to the drawings in detail, a shipping container 10 comprises a cylindrical body 11 which is open at its upper end and adapted to be closed for shipment by a cover (not shown). The body 11 is of the usual size and shape to accommodate the type of lubricant ordinarily shipped therein and is provided with a fixed bottom 12 so that when the cover is in place the device forms a completely closed chamber.

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Fitted in the body is a collapsible liner 13 which is in the form of a flexible bag, the upper end of which is closed by an end wall 14 having a central opening 15 into which a dispensing nipple 16 is fastened in any suitable manner, as by winding string or the like about the junction of the top 14 and the nipple 16. It is obvious that any suitable type of seal may be employed between the bag top 14 and the nipple which will prevent the escape of the contents of the liner 13 around the outside of the nipple.

Secured to the nipple 16 as by a threaded connection is a follower 17 which takes the form of a metal disk of a diameter to telescope within the body 11. This follower is provided with an annular upturned flange 18 at its periphery which is positioned close to the side walls of the container 11 and radial reinforcing depressions 19 are preferably formed in the follower to insure that it will remain at all times flat. Seated on the upper side of the follower and surrounding the nipple 16 is a washer 20 of felt or similar soft, pliable material which will serve as a seal when the open end of a grease gun is placed over the nipple 16. This washer 20 also serves as a seal when the spout, to be more fully hereinafter described, is placed in position on the dispensing device.

The spout above referred to is designated generally 21 and comprises a straight nipple 22 which terminates at one end in an enlarged socket for threaded connection with the exterior of the nipple 16. Attached in any suitable manner to the opposite end of the nipple 22 is a U-shaped spout member 23 which is of a length to extend slightly beyond the radial distance between the nipple 16 and the side of the body 11. The function of this spout 21 and the parts forming it is obvious from an examination of Figure 4, and when the device is being shipped the parts 22 and 23 may be separated and placed in position on the top of the follower 17, as suggested by the dotted lines in Figure 1. It will thus be seen that the spout as a whole may be accommodated in the space between the cover of the container 10 and the upper side of the follower during shipment.

The operation of the device is more or less obvious, as it is apparent that the open end of a barrel of a grease gun, after the cap has been removed therefrom, may be placed over the nozzle 16 and against the washer or gasket 20 so that when downward pressure is exerted on the follower 17, the contents of the liner 13 will be extruded through the nipple 16 and into the barrel

of the gun or other piece of equipment to be loaded. Due to the fact that the gasket 20 is of relatively soft, pliable material, it is obvious that no leakage between the end of the gun barrel and the follower or nipple 16 will result. Should the contents of the liner 13 be of such a light viscosity as to render it impractical to fill a gun barrel as above suggested, the nozzle 21 may be placed in position, as illustrated in Figure 4, and when downward pressure is applied to the follower 17, the contents of the collapsible liner 13 will be forced upwardly through the spout and then directed downwardly into the barrel of the gun or other piece of equipment to be loaded.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having thus described the invention, what I claim is:

1. A shipping and dispensing device comprising a cylindrical body wholly open at one end, a hollow collapsible liner within the body, a discharge nipple on the end of the liner adjacent the open end of the body, a follower surrounding the discharge nipple and covering the end of the liner through which the discharge nipple extends whereby the contents of the liner may be extruded through the nipple when pressure is applied to the follower, and cover on the container forming in conjunction with the follower a chamber in which a dispensing nozzle is housed during shipment of the device.

2. A shipping and dispensing device comprising a cylindrical body wholly open at one end, a hollow collapsible liner within the body, a discharge nipple entering the end of the liner adjacent the open end of the body, and a follower surrounding the discharge nipple and covering the end of the liner through which the discharge nipple enters whereby the contents of the liner through which the discharge nipple enters may be extruded through the nipple when pressure is applied to the follower, a cover on the body forming in conjunction with the follower a chamber, and a discharge spout adapted to be connected to the discharge nipple said discharge spout being housed within the chamber during shipment of the device.

3. A shipping and dispensing device comprising a hollow collapsible liner, a cylindrical body surrounding the liner, a follower telescopically associated with the body and adapted to engage one end of the liner, a discharge nipple communicating with the liner and extending through the follower, and a discharge spout adapted to be connected to the discharge nipple and a cover for the container forming in conjunction with the follower a chamber in which the discharge spout may be housed during shipment of the container.

4. A shipping and dispensing device comprising a cylindrical body wholly open at one end, a hollow collapsible liner adapted to be contained within the body, a discharge nipple entering the end of the liner adjacent the open end of the body, a follower surrounding the discharge nipple and covering the end of the liner entered by said nipple whereby the contents of the liner may be extruded through the nipple when pressure is applied to the follower, a sealing gasket surmounting the follower and surrounding the nipple, a discharge spout adapted to be connected to the discharge nipple and seated against said gasket and a cover for the body forming in conjunction with the follower a chamber in which the discharge spout may be housed during shipment of the container.

5. A shipping and dispensing device of relatively large capacity comprising a hollow cylindrical body wholly open at one end, a cover to close the open end of the body during shipment, a hollow collapsible liner within the body forming with the cover a chamber at the top of the body, a discharge nipple entering the end of the liner adjacent the chamber, said discharge nipple extending into the chamber, a follower surrounding the discharge nipple and covering the end of the liner through which the discharge nipple enters the chamber, whereby the contents of the liner may be extruded through the nipple when pressure is applied to the follower, and a dispensing nozzle adapted to be coupled to the nipple.

6. A shipping and dispensing device comprising a hollow collapsible liner, a cylindrical body surrounding the liner, a follower telescopically associated with the body and adapted to engage one end of the liner, a cover on the body forming with the follower a chamber, a discharge nipple communicating with the liner and extending through the follower into the chamber and a dispensing nozzle adapted to be detachably coupled to the nipple and when not use, to be housed within the chamber.

7. A reusable shipping and dispensing container for oil, grease and the like comprising a cylindrical body wholly open at one end, a cover adapted to close the open end of the body during shipment, a hollow collapsible oil or grease containing liner within the body, a discharge nipple entering the end of the liner adjacent the open end of the body, a follower on the end of the liner adjacent the open end of the body, said follower having an opening to accommodate the discharge nipple and a discharge spout adapted to be detachably coupled to the discharge nipple during the dispensing of the contents of liner and also being adapted to be housed between the follower and the cover during the shipment of the container.

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