July 14, 1936. L. W. EVANS 2,047,409

LIQUID DISPENSING UNIT

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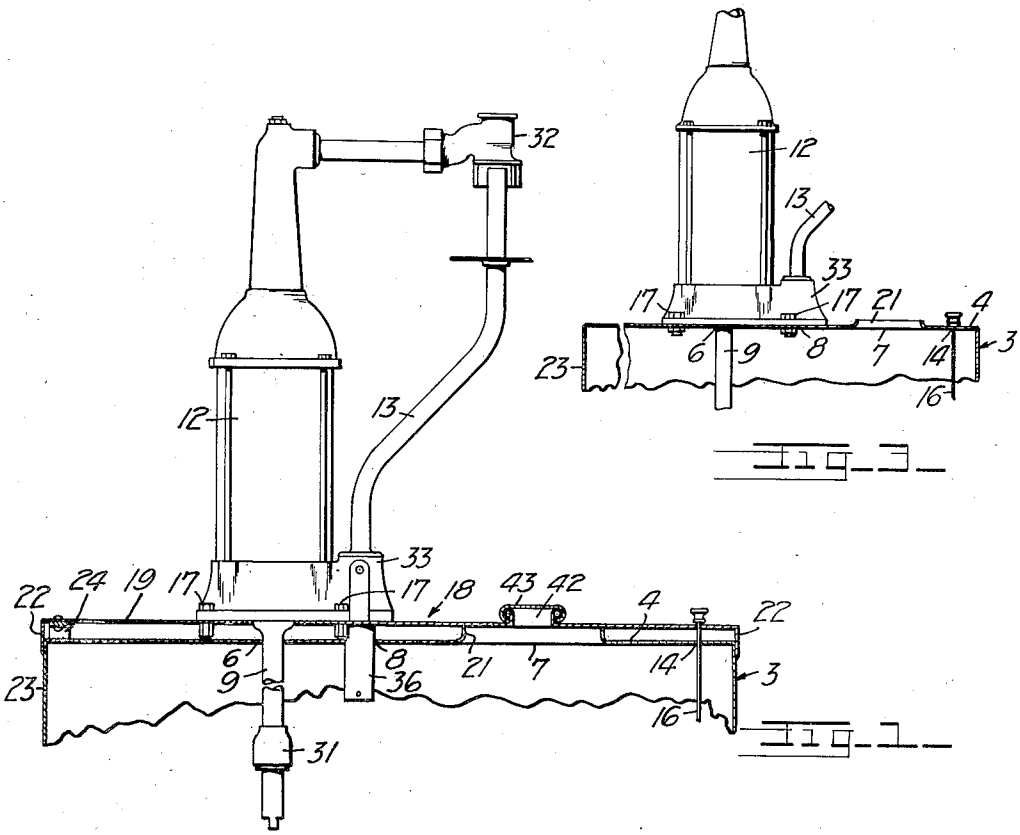


Fig. 1

Fig. 3

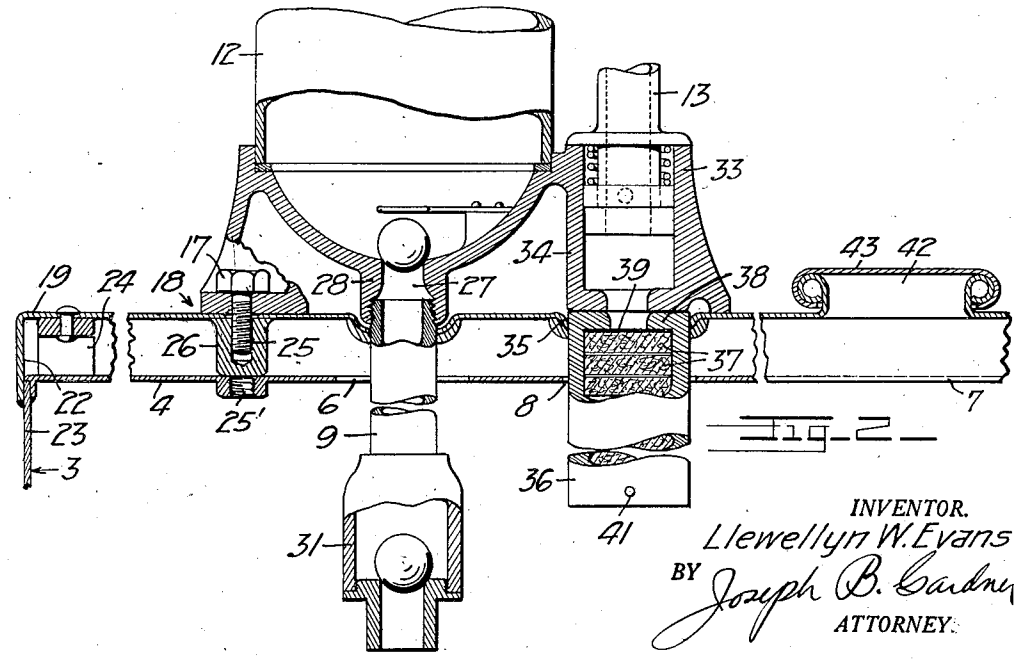


Fig. 2

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LIQUID DISPENSING UNIT

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2 Claims. (Cl. 221—72)

The invention relates to an apparatus incorporated with a container, for use in dispensing liquids such as lubricating oils and the like, at service stations, garages, etc.

An object of the invention is to provide an apparatus of the character described which will permit of the displacement or even removal of the operative parts thereof for inspection or repair, but will prevent unauthorized refilling of the container at all times.

Another object of the invention is to provide an apparatus of the character described in which all parts thereof, including the means for preventing the unauthorized refilling of the container, are built in as a unit with the cover for the container.

A further object of the invention is to provide means of the character described which may be used to modify existing types of dispensing containers so as to render them immune from unauthorized refilling.

A still further object of the invention is to provide means in accordance with my invention which when used in connection with an existing form of dispensing container, may be operatively superimposed on the original cover of the container and furnished with the operating parts formerly provided thereon.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a side elevation partly in section of a dispenser, parts of the container associated therewith being broken away.

Figure 2 is an enlarged view similar to Figure 1, but with more of the parts in section.

Figure 3 is a view similar to Figure 1, showing a dispensing unit of an existing type, and before being modified in accordance with my invention.

In the present embodiment of the invention, the dispensing unit is of a form adapting it for use in connection with a container 3 such as in more or less general use by service stations for dispensing lubricating oil in measured or unmeasured quantity. The container before being modified for use with my unit has provided thereon, as shown in Figure 3, all of the members and connections which are necessary for introducing the oil to or discharging same from the interior of the receptacle, the said members and connections being all mounted or provided on the cover 4 of the container. From said Figure 3 it will be seen that there are provided in the cover 4 three openings or connections 6, 7, and 8, the first of which serves for the accommodation of the suction pipe 9 of a pump 12 on the cover, the second affords a means of inlet for the oil, while the third accommodates the movable return drain pipe 13 usually provided in connection with the pump discharge terminal. A further opening 14 is usually also provided in the cover for accommodation and guidance of a gauge stick 16. It will be obvious that should it be desired, any one may insert liquid in the container by way of the drain pipe with almost the same facility as through the inlet opening 7. Furthermore since the pump is merely secured in position by means of bolts 17, it may be readily detached so as to withdraw the suction pipe from opening 6, and thus permit of liquid being introduced into the container interior through such opening. It will thus be evident that, notwithstanding some means be provided for preventing introduction of liquid through the normal inlet, a person so desiring may readily insert inferior oil or other liquid into the container practically with no difficulty.

As a ready and effective means of preventing the unauthorized insertion of oil in the container in the type described, I provide a unit 18 which while involving the use of an auxiliary container cover 19 utilizes, if desired, all of the operating parts such as the pump 12, the return drain device 13, and the gauge stick 16. Furthermore the four openings 6, 7, 8, and 14, in the cover 4, are likewise utilized for a purpose substantially corresponding to that for which they were used in the original form of the container, and in a manner making unnecessary the mutilation of such cover to any extent.

The cover 19, as will be clear from Figures 1 and 2, has mounted thereon the pump 12 and oil-return device 13, and while these latter parts may of course be other than those originally provided on the container 3, I prefer for the sake of economy and convenience to use the originals. It will be understood that in either case, as part of the modifying operation, the pump and return device are stripped from the cover 4, thus leaving projecting upwardly from the latter merely the upstanding flange 21 surrounding the inlet opening 7. The cover 19 is designed to completely

overlie and conceal the cover 4 and is provided with a depending flange 22 which fits around the sides 23 of the container. In order that the cover 19 may set evenly on the container, a spacer 24 of the same depth as the flange 21 is affixed to the under side of the cover and arranged to engage the upper surface of cover 4. Attachment of the cover 19 in position may be effected by welding, sweating, or otherwise permanently securing the flange 22 to the sides of the container, but such attachment is made only after there has been secured to the cover such members and parts as are arranged for permanent attachment thereto.

In the present form of the invention the pump and preferably the return drain device, which is here shown integrally associated with the pump, are among the parts arranged to be carried on the cover 19, which may be secured in position after the latter has been attached to the container. As will be clear from Figure 2, these are used for securing the pump and device to the cover 19, the screws 17 which engage in tapped holes 25 provided in enlargements 26 of the cover. The holes 25, in contra-distinction to the corresponding ones 25' formed in the cover 4, extend only partially rather than completely through the cover, and in this manner even when the screws are removed, such as for permitting the release or removal of the entire pump and drain device, the closed end of the holes will prevent access thereat to the interior of the container. Preferably the enlargements 26 serve, with the flange 21 and spacer 24, in holding the cover 19 in even spaced relation on cover 4.

Operatively connected with the intake port 27 of the pump is the suction pipe 9 which extends through both covers 19 and 4 but is permanently anchored to cover 19. Preferably a portion of the pipe protrudes above the cover 19 and is threaded so as to engage the threaded flange 28 surrounding port 27. It will be understood that pipe 9 has a sealed fit in the cover 19 and as here shown such fit is maintained and the pipe secured to the cover by welding the pipe to the cover at their contiguous portions. With the pump and pipe thus only threadedly connected, attachment of the pump to or detachment thereof from the cover may be effected outside of having to release or replace the screws 17, merely by rotating the pump. As will be evident from an inspection of Figure 2, should the pump be removed from off the cover 19, access to the interior of the container, unless otherwise prevented, would be available at the exposed upper end of the suction pipe. To therefore prevent use of the suction pipe for introducing liquid to the container, there is provided, preferably at the lower extremity of the pipe, a check valve 31 which prevents discharge of any fluid from the pipe into the container but will of course permit of the oil in the container being drawn into the pipe.

It will be understood that the function of the drain pipe 13 is normally that of catching the drippings from the pump discharge orifice 32 and conveying same back into the container. The pipe 13 is so mounted that it may be swung clear of the orifice 32 when oil to be discharged into some vessel or the like, and as will be obvious, when the pipe is so swung the intake end thereof is available for introducing into the container liquid other than from the pump. Pipe 13 is mounted on the pump case casting 33, and as will be clear from Figure 2 such casting is formed with pipe 13 and provides an extension therefor to an opening 35 in cover 19 aligned with opening 8. Fixed and sealed within the opening 35 and extending through the opening 8 is a pipe portion 36 whose lower end is open to the container and whose upper end is arranged for contact and operative connection with the pipe portion 34. Within the pipe portion 36 is provided a means for retarding the flow of fluid therethrough, and as here shown such means preferably comprises a plurality of layers or disks 37 of felt or other fibrous material. The layers are so formed and arranged that the flow of liquid through the pipe is considerably restricted, and while the amount of oil normally deposited in the pipe as drippings from the pump orifice will seep through the layers with sufficient freedom to insure proper functioning of the pipe, forcing of an appreciable amount of oil into the container at any appreciable speed is by way of this pipe not possible. Thus it will be clear that notwithstanding the removal of the entire pump and return unit, no liquid may be passed into the container either by way of suction pipe 9 or opening 35. The upper extremity of pipe portion 36 is formed with an inside flange 38 so as to confine the layers within the pipe and preferably a screen 39 is interposed between the flange and the uppermost layer in the pipe so as to effectively prevent removal of the layers. If desired the layers may be supported on a pin 41 extending across the pipe under the lowermost layer.

Supply of oil by an authorized person to the container is arranged to be effected through an inlet opening 42 in the cover 19, which opening registers with opening 7 of cover 4. The opening 42 is designed to be closed by a cap 43 which may be locked in closed position, or if desired the cap may be of a type which, when once removed from over the opening, cannot be replaced without such removal being evident.

I claim:

1. A liquid dispensing unit arranged for attachment to a container for discharging the contents thereof and for preventing the unauthorized refilling of the container comprising, a plate fixed against detachment over an end cover of the receptacle, enlargements on the under side of said plate, a pump unit, means for detachably securing said pump unit to the outer side of said plate including a connection between said pump and enlargements formed exclusively out of communication with the under side of said plate, and an inlet conduit carried by said plate in communication with said pump unit and arranged to extend through said cover and into said receptacle.

2. A liquid dispensing unit arranged for attachment to a container for discharging the contents thereof and for preventing the unauthorized refilling of the container comprising, a plate fixed against detachmet over an end cover of the receptacle, enlargements on the underside of said plate arranged to engage and support said plate from said cover and provided with threaded openings terminated within said enlargements, a pump unit, bolts secured to said pump unit and engaged in said openings, and an inlet conduit carried by said plate in communication with said pump unit and arranged to extend through said cover and into said receptacle.

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