Aug. 20, 1940. N. W. HALSEY 2,212,367

LIQUID DISPENSING CONTAINER

Filed Jan. 27, 1939

Fig. 1

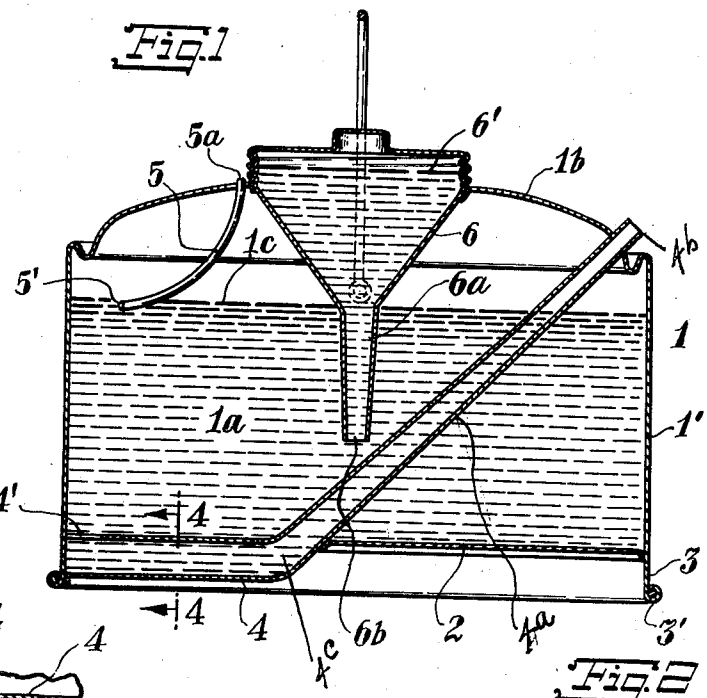



Fig. 4

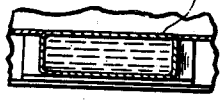



Fig. 2

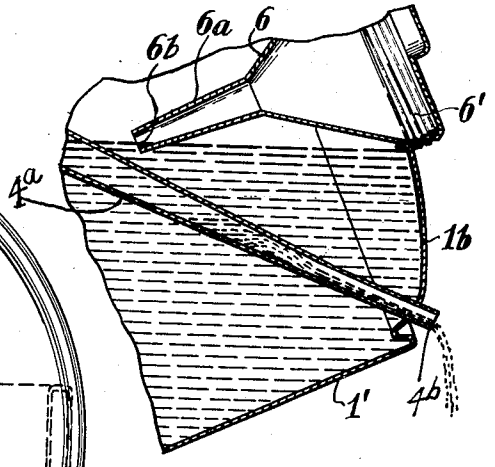



Fig. 3

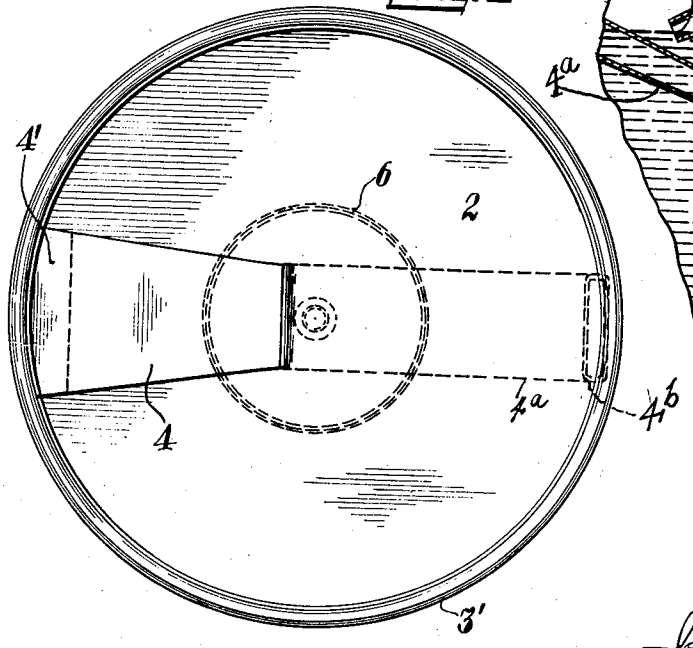
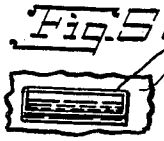



Fig. 5

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## LIQUID DISPENSING CONTAINER

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Application January 27, 1939, Serial No. 253,071

4 Claims. (Cl. 221—98)

This invention relates to improvements in liquid dispensing containers and particularly to dispensing containers for viscous liquids.

One of the objects of my invention is to enable the dispensing, in each tilting operation, of measured quantities of approximately equal size of viscous liquid such as liquid detergents of high viscosity.

Another object of my invention is to produce a transfer container or can adapted to be filled from a larger container or drum with a viscous liquid detergent and which will, upon each tilting operation, dispense through a spout a measured quantity of such viscous liquid.

Still another object of my invention is, in a device of the character specified, to provide a combined measuring compartment and spout adapted to receive and contain a measured quantity of viscous liquid and that will rapidly deliver such a measured charge of the viscous liquid, and which will, in the dispensing operation, avoid excessive frictional resistance between said liquid and the spout walls by causing such liquid in its passage through the outlet part of the spout to pass along the lower surface only thereof, and which also will avoid a complete filling of the outlet part of the spout with liquid and avoid consequent clogging thereof during the dispensing operation.

Another object of my invention is, in a device of the character specified, to provide, in combination with a measuring device positioned below the bottom of the container and having an inlet opening disposed adjacent to the wall of the container, a filling funnel having an outlet near the bottom of the container and at a position remote from the inlet of the measuring device.

With these and other objects in view, the invention comprises the combination of members and arrangement of parts so combined as to co-act and co-operate with each other in the results herein contemplated, and comprises in one of its adaptations the species or preferred form illustrated in the accompanying drawing, in which:

Fig. 1 is a sectional view of a liquid dispensing container embodying my invention;

Fig. 2 is a fragmentary section similar to Fig. 1 showing a portion of the container with the spout in tilted position;

Fig. 3 is a bottom plan view of the container shown in Figs. 1 and 2;

Fig. 4 is a section on the line 4—4 of Fig. 1, looking in the direction of the arrows; and

Fig. 5 is a fragmentary front view of the spout in adjacent position to the can.

Referring now to the drawing which illustrates a preferred embodiment of my invention, 1 is a container or can body having a wall 1' preferably cylindrical in conformation connected with a top 1b and provided with a container-bottom 2 raised above the bottom edge of the can body to provide a base or foot portion 3 which preferably comprises an integral continuous part of the cylindrical wall 1'. A measuring container or compartment 4 positioned below the container-bottom 2 and preferably between said bottom and the terminal edges 3' of the skirt or foot portion 3, has an inlet aperture 4' extending through the bottom 2 and communicating at a position adjacent to the wall of the container between said measuring compartment 4 and a reservoir compartment 1a of said can or container. The measuring device 4 preferably comprises a flat, oblong compartment extending from the axis of the can in a substantially radial direction to the cylindrical wall and having the said inlet opening 4' at its outer end. The opposite end of said measuring container or compartment is preferably disposed adjacent to the axis of the container can and is connected with a spout extending from the axial end of the measuring device in an inclined direction to and through the top wall 1b adjacent to the edge of the top of the container. The said spout is relatively wide, preferably of square or rectangular conformation with side walls converging slightly toward each other progressively from its connection with the measuring compartment to an outlet and preferably comprising a passage-way of such large capacity as will permit the discharge therethrough of liquid along the bottom surface thereof so as to permit the dispensing of a measured charge of liquid during a tilting operation of the can which will flow along the bottom of the spout-passage only. It will be understood that in dispensing viscous liquids of the type under consideration the conventional small spout will become so clogged as to prevent the dispensing operation and it is therefore necessary to provide a spout which will have a capacity large enough to permit the free flow of viscous liquid along the bottom of the spout while at the same time keeping such liquid from frictional contact with the upper wall of the spout. I am thus enabled to provide a free air space in the spout which will permit the free flow of liquid and also reduce to a minimum the frictional contact between such viscous liquid and the walls of the spout. I

have found that a spout which is relatively large and rectangular in conformation serves this purpose and enables a free flowing of the viscous liquid through the spout.

A vent tube 5 preferably extends downwardly within the can and, as shown, has an end extending to the position 5' to permit the reservoir compartment 1a to be preferably filled to a given level such as 1c. Obviously, when the viscous liquid rises to the end 5' of the vent tube 5 so as to close the same, this will prevent further movement of liquid upwardly in the can so that the position of the lower end of the vent tube determines the liquid level and the air space above the same. As illustrated, the vent tube 5 has its opposite end 5a extending through the top wall 1b of the can adjacent to the center thereof.

In accordance with the preferred form of my invention, the can is provided with a filling funnel 6 extending axially within the container and having a wide conical inlet or mouth 6' arranged axially of the container and connected with a lower tube 6a having an outlet 6b extending to a position below the center and near the bottom of the can. This outlet 6b is disposed at a position remote from the inlet 4' of the measuring compartment 4.

Having described my invention, I claim:

1. A dispensing container for viscous liquids embodying, in combination, a container, a measuring compartment in the bottom of said container adapted to receive a predetermined quantity of liquid from the container and having an inlet adjacent to one wall of the container, said measuring compartment having its walls converging gradually toward each other from its inlet to its outlet end, a spout connected with said measuring compartment and having at its inlet end a capacity substantially as large as the capacity of the outlet end of the measuring compartment and also having throughout its length a width substantially equal to its width at said inlet end, said wide spout being adapted, upon tilting of the container, to dispense, without clogging, the liquid within the measuring compartment along the bottom of the spout, means for filling said container, and venting means extending below the top of said container to limit the height of the filling liquid therein.

2. A dispensing container for viscous liquids embodying, in combination, a container, a measuring compartment in the bottom of said container adapted to receive a predetermined quantity of liquid from the container and having an inlet adjacent to one wall of the container, said measuring compartment having its walls converging gradually toward each other from its inlet to its outlet end, a spout connected with said measuring compartment and having at its inlet end a capacity substantially as large as the capacity of the outlet end of the measuring compartment and also having throughout its length a width substantially equal to its width at said inlet end, said wide spout being adapted, upon tilting of the container, to dispense, without clogging, the liquid within the measuring compartment along the bottom of the spout, a filling funnel having an outlet near the bottom of the container and at a position remote from the inlet of the measuring device, venting means extending below the top of said container to limit the height of the filling liquid therein, and means for preventing the discharge of the liquid through the filling aperture.

3. A dispensing container for viscous liquids embodying, in combination, a container, a flat rectangular measuring compartment disposed below the bottom of said container adapted to receive a predetermined quantity of liquid from the container and having an inlet adjacent to one wall of the container, said measuring compartment having its walls converging gradually toward each other from its inlet to its outlet end, a spout connected with said measuring compartment and having at its inlet end a capacity substantially as large as the capacity of the outlet end of the measuring compartment and also having throughout its length a width substantially equal to its width at said inlet end, said wide spout being adapted, upon tilting of the container, to dispense, without clogging, the liquid within the measuring compartment along the bottom of the spout, means for filling said container, venting means extending below the top of said container to limit the height of the filling liquid therein, and means for preventing the discharge of the liquid through the filling aperture.

4. A dispensing container for viscous liquid embodying, in combination, a container, a flat rectangular measuring compartment disposed below the bottom of said container adapted to receive a predetermined quantity of liquid from the container and having an inlet adjacent to one wall of the container, said measuring compartment having its walls converging gradually toward each other from its inlet to its outlet end, a flat rectangular spout connected with said measuring compartment and having at its inlet end a capacity substantially as large as the capacity of the outlet end of the measuring compartment and also having throughout its length a width substantially equal to its width at said inlet end, said flat spout being adapted, upon tilting of the container, to dispense, without clogging, the liquid within the measuring compartment along the bottom of the spout, means for filling said container, venting means extending below the top of said container to limit the height of the filling liquid therein, and means for preventing the discharge of the liquid through the filling aperture.

NORMAN W. HALSEY.