

April 22, 1958

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2,831,610

LIQUID DISPENSING CONTAINER

Filed Sept. 13, 1956

2 Sheets-Sheet 1

Fig. 1.

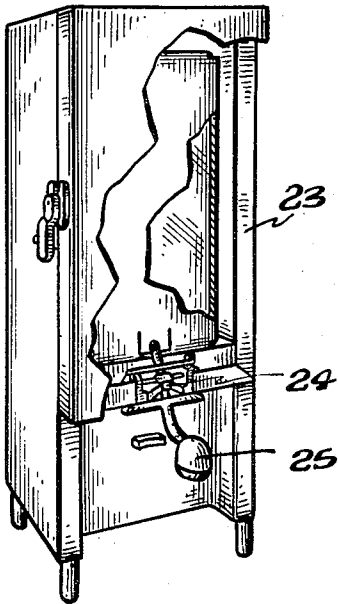


Fig. 2.

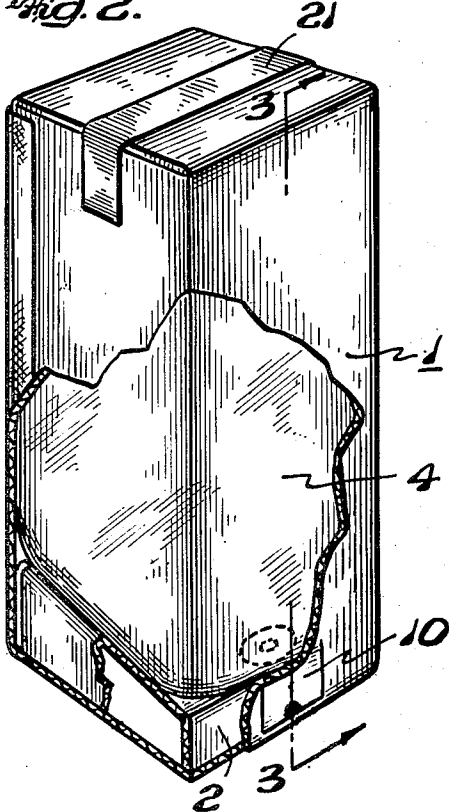


Fig. 3.

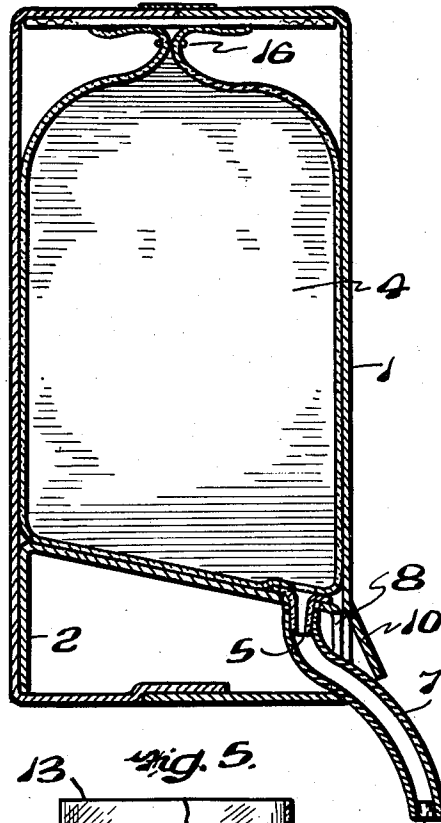
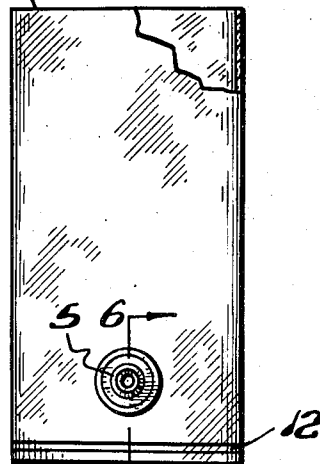


Fig. 5.



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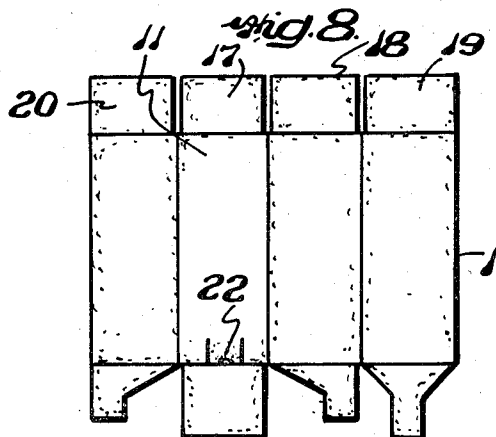
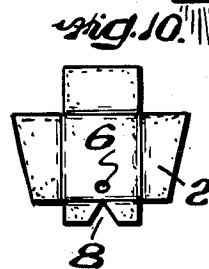
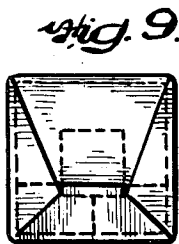
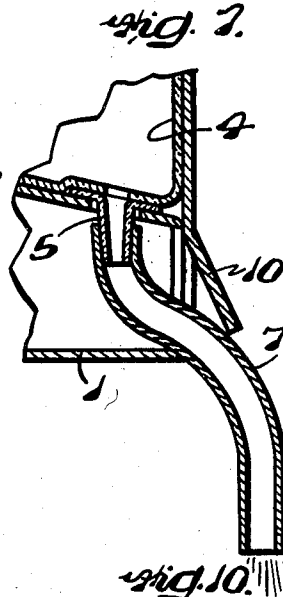
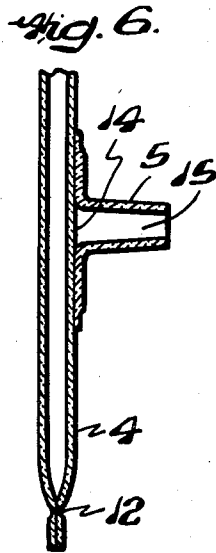
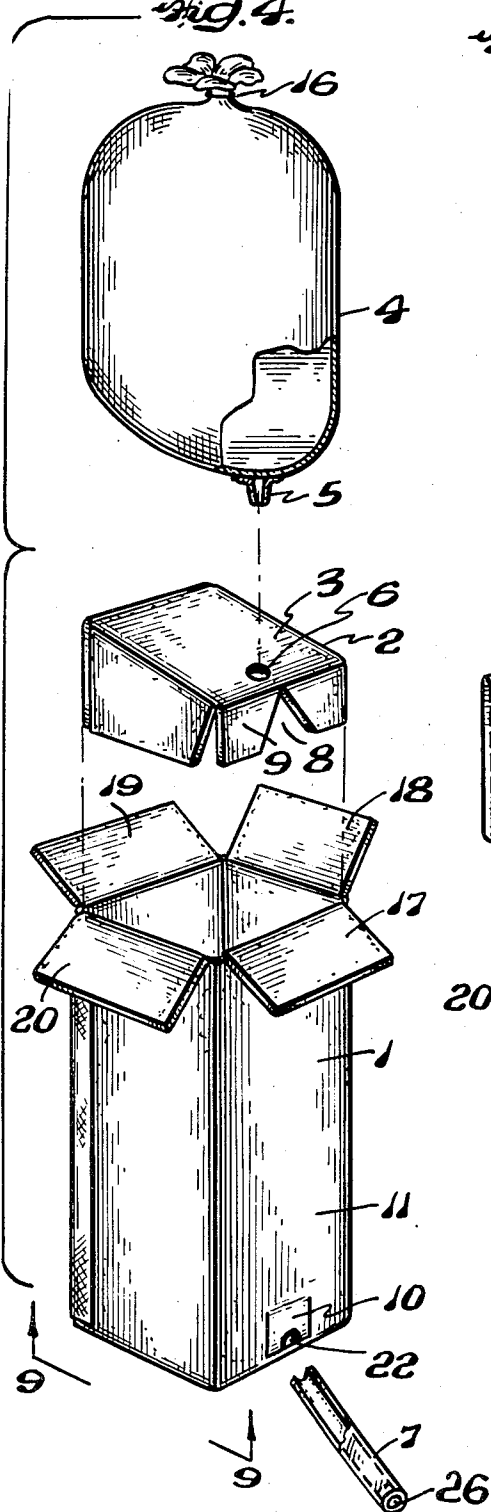
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LIQUID DISPENSING CONTAINER

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2 Sheets-Sheet 2



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2,831,610

LIQUID DISPENSING CONTAINER

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Application September 13, 1956, Serial No. 609,570

3 Claims. (Cl. 222—105)

My invention is an improved liquid dispensing container for carrying, storing and dispensing fluids such as milk.

During recent years the rules and regulations of the health governing bodies of various municipalities and states concerning the dispensing of fluid milk in small quantities have resulted in the modification of the standard steel milk can to provide means at the bottom thereof for emptying the can into a glass or other small receptacle. Such cans are normally placed in a cabinet such as that illustrated in Patent No. 2,601,319. However, the steel can has a high initial cost and must be retinned regularly. It also involves the various steps of returning the cans to the dairy and processing the empty cans before refilling with fresh milk.

The primary object of my invention is to provide a light weight, disposable container which can be used for the storage, transportation and dispensing of milk or other liquids in relatively small amounts, that is to say, in three and five gallon containers.

A further object of my invention is to provide a low cost, light weight container which can carry fluid milk or the like without exposing the contents of the container to airborne bacteria at any time.

A further object of my invention is to provide a completely sanitary, one use container which can be compactly shipped and stored prior to use and which can be readily assembled immediately prior to use.

A further object of my invention is to provide a disposable container having a liquid holding type of liner bag in a cardboard carton and means for emptying the contents of the bag through a nozzle having attached thereto a hose which extends through a flap on one side of the carton without exposing the contents of the bag to air.

The principles of my invention and the best mode in which I have contemplated applying such principles will further appear from the following description and the accompanying drawings in illustration thereof.

In the drawings:

Fig. 1 is a perspective, broken away view of a dispensing cabinet with my improved container located therein;

Fig. 2 is a perspective view of my improved container partly broken away to show the flexible liner bag and the inclined bottom support in said container;

Fig. 3 is a side elevational view of my improved container taken along the line 3—3 of Fig. 2 with the dispensing hose in place;

Fig. 4 is an exploded view of my improved container;

Fig. 5 is a plan view of the flexible liner bag in flat, collapsed condition;

Fig. 6 is a side elevational view, somewhat enlarged, of a portion of the flexible bag taken along the line 6—6 of Fig. 5 illustrating a modified attachment of the nozzle to the flexible liner bag;

Fig. 7 is a fragmentary, side elevational view in cross

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section of the container illustrating the emptying of the bag through the nozzle;

Fig. 8 is a plan view of the carton before folding and sealing;

Fig. 9 is a bottom plan view of the carton after folding and sealing;

Fig. 10 is a plan view of the inclined support for use in the bottom of the container to provide drainage from and support to the bottom of the flexible liner bag.

My container comprises a cardboard carton 1 having a false bottom 2 with an inclined surface 3 capable of supporting a flexible liner bag 4. The flexible bag 4 has secured thereto a nozzle 5 which projects through an aperture 6 located at the lower end of the inclined surface 3. One end of a hose or tube 7 may be connected to said nozzle 5 and the other end led through a cutout 8 in the front end 9 of the false bottom 2 and led through a pull-out flap 10 in one side 11 of the carton 1 in juxtaposition to the cutout 8. The contents of the bag 4 are emptied through the nozzle 5 and hose 7.

The flexible liner bag 4 is preferably made from a section of polyethylene which is heat sealed along the bottom edge 12 to form a bag open along the top edge 13. The nozzle 5, which may also be formed from polyethylene, is heat sealed or otherwise attached to the lower portion of the bag 4 at the same time perforating the bag to permit the contents of the bag to freely flow into the nozzle 5, as illustrated in Figs. 3 and 7.

I may, however, permit the skin of the bag to form a diaphragm 14 over the base of the nozzle 5, as shown in Fig. 6. In this modification, I may keep the bag 4 completely sealed until the time the bag is to be emptied at which time the operator inserts a pointed instrument (not shown) through the canal 15 of the nozzle 5 to perforate the diaphragm 14 and permit the contents of the bag to flow into the nozzle 5.

Normally the cardboard carton 1 and false bottom 2 are shipped to a creamery in flattened condition as illustrated in Figs. 8 and 10. When they are to be used the carton is folded along its normal crease lines so as to form the shape indicated in Figs. 4 and 9. The false bottom is folded along its normal crease lines so as to form the shape illustrated in the center of Fig. 4 and is inserted in the folded carton 1 so that the V-shaped cutout 8 and aperture 6 is adjacent the flap 10, as illustrated in Figs. 2 and 3. Prior to insertion of the false bottom in the carton, the nozzle 5 attached to the bag 4 is placed through the aperture 6 and the hose 7 firmly attached to the end thereof. The false bottom 2 and the bag 4 are then inserted into the carton 1 as a unit, the hose 7 being disposed in the void beneath the false bottom 2 until the bag is to be emptied. The lower end of the hose 7 has a plug or closure 26, Fig. 3, thereby sealing the lower end of the bag when the hose is securely attached to the nozzle 5.

After the carton, false bottom and bag are assembled as above described, the bag is filled with milk or other fluid and the top of the bag sealed by a ring 16 or the like, as illustrated in Figs. 3 and 4. The closure flaps 17, 18, 19 and 20 of the carton 1 are then folded over and sealed by a tape 21.

When the sealed container is to be emptied, the flap 10 is pulled open by means of the finger hole 22 and the free end of the hose 7 is fished out of the void beneath the false bottom 2. The container is then placed in a dispensing cabinet 23, such as illustrated in Fig. 1. Such a dispensing cabinet normally has a pinchcock type of apparatus 24 for pinching the hose 7 shut while the weight or handle 25 is in lowered position. After the container is in position in the dispensing cabinet 23, the

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free end of the hose 7 is led through the pinchcock 24 and the hose is severed immediately above the plug or closure 26. As soon as the lower end of the hose 7 has been severed the bag 4 may be emptied merely by lifting the weight 25 thereby opening the pinchcock 24 and permitting the milk or other fluid to flow through the hose 7.

If desired the nozzle 5 and the tube 7 may be made as a single unit. The plug 26 at the end of the tube 7 will, of course, prevent the contents of the bag from being emptied prior to removal of the plug or the severing of the end of the tube containing the plug.

Although the container may be used without the false bottom in the carton, in which case the nozzle 5 can be led directly from the carton through the flap 10, I prefer to use the false bottom as it provides means for draining the contents of the bag without tilting the carton and protects the nozzle against contamination and possible damage during shipment and storage.

Having described my invention, I claim:

1. A container comprising a disposable carton having closure flaps at the top and bottom of said carton, a false bottom having an inclined top surface and supported by said closure flaps at the bottom of said carton, an aperture in said false bottom near the lower end of said incline and adjacent one side of said carton, a pullout flap on one side of said carton providing an opening into said carton below said inclined surface, a flexible bag in said carton having a nozzle attached thereto and protruding through said aperture, and a flexible tube attached

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to said nozzle for delivering the contents of said bag to the outside of said container by way of said flap.

2. A container comprising a disposable carton having closure means at the top and bottom of said carton, an opening on one side of said carton near the bottom thereof, an inclined support in said carton having an aperture at the lower end thereof adjacent said opening, a flexible bag in said carton seated on said inclined support, a nozzle affixed to said bag and projectible through said aperture in said support, means for storing a flexible tube in said carton during storage and transit, one end of said tube being connected to the end of said nozzle for emptying the contents of said bag through said opening to the outside of said container.

3. A container comprising a carton having closure flaps at the top and bottom thereof, a pull-out flap on one side of said carton near the bottom thereof, a flexible bag in said carton and supported by said closure flaps, said bag having a nozzle projectible through said pull-out flap, and means for sealing said bag and nozzle prior to emptying the contents thereof through said nozzle.

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