

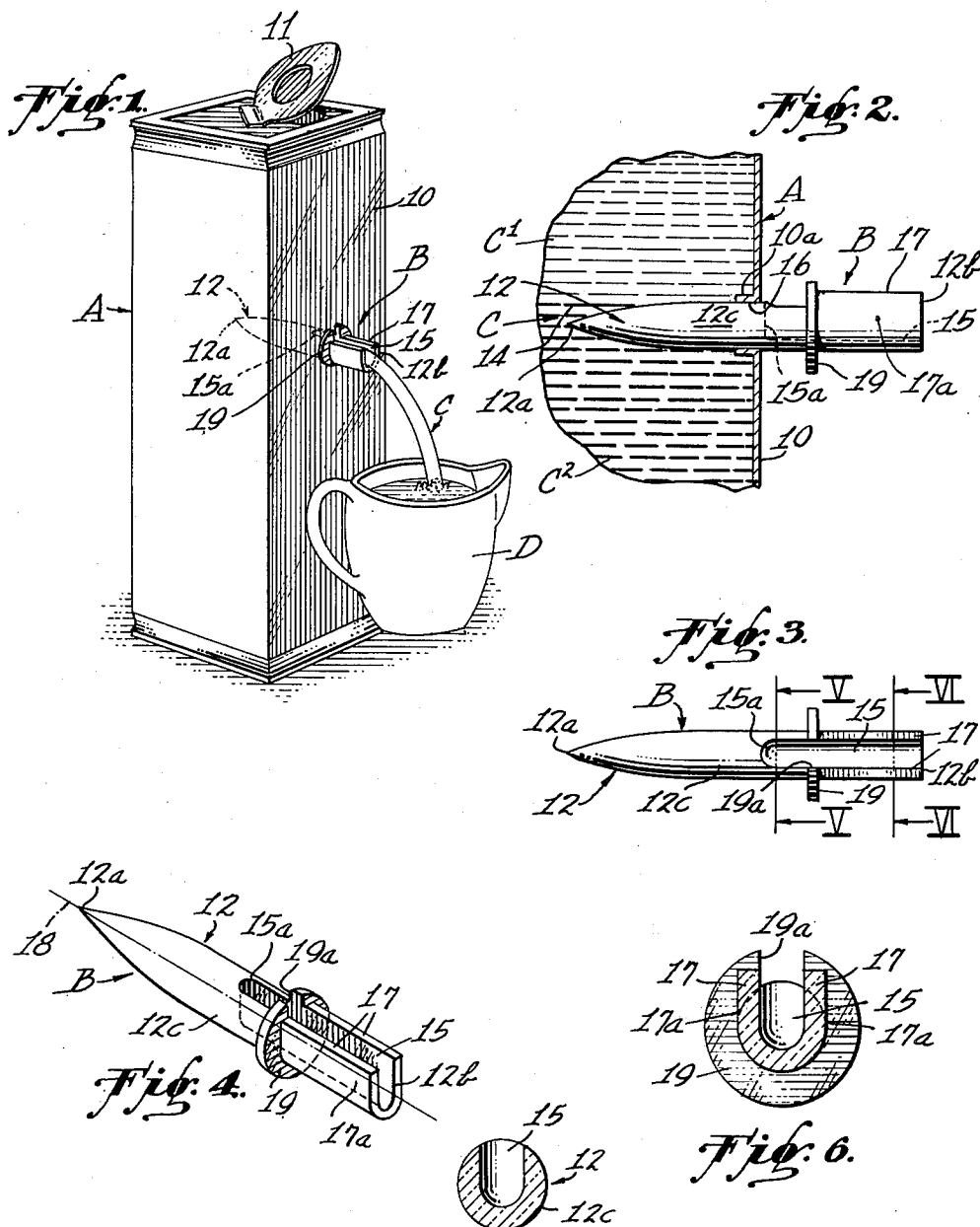
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LIQUID-DISPENSING VALVE SPILE

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LIQUID-DISPENSING VALVE SPILE

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2 Claims. (Cl. 222-81)

1 The present invention relates to improvements in a liquid-dispensing valve spile; and has particular reference to improvements over the "Valve-Spout Cream Separator" disclosed in my copending application for Letters Patent of the United States, Serial No. 632,756, filed on December 4, 1945. It consists of the combinations, constructions and arrangement of parts, as hereinafter described and claimed.

An object of my invention is to provide a valve spile that may be readily and easily pushed through the wall of a container for allowing liquid in the latter to be dispensed. When the spile is withdrawn partially, it serves as a valve and prevents discharge of the liquid.

It is proposed in this invention to provide a shank having an open-top channel extending from an intermediate portion of the shank to the discharge end of the spile. This channel forms a passageway through which liquid flows from the container. The fact that the channel is open throughout its entire length materially facilitates the cleaning and sterilizing thereof.

Another object of my invention is to provide the portion of the shank that is disposed exteriorly of the container with walls bordering the sides of the channel, these walls extending above the remaining portion of the shank to prevent the liquid from overflowing the channel sides.

A still further object is to fashion the portion of the shank that remains exteriorly of the container when the shank is in dispensing position with flat opposing surfaces. The latter facilitate gripping of the shank during its insertion or removal relative to the container.

Other objects and advantages will appear as the specification continues, and the novel features will be pointed out in the claims hereunto appended.

For a better understanding of my invention, reference should be had to the accompanying drawing, forming part of this application, in which:

Figure 1 is a perspective view of a container disclosing my spile arranged in liquid-dispensing position;

Figure 2 is a vertical sectional view through the same container, but showing the spile in non-discharging position;

Figure 3 is a top plan view of my liquid-dispensing valve spile;

Figure 4 is an isometric view of the spile;

Figures 5 and 6 are enlarged transverse sectional views taken along the lines V-V and VI-VI, respectively.

2 While I have shown only the preferred form of my invention, it should be understood that various changes, or modifications, may be made within the scope of the annexed claims without departing from the spirit thereof.

Referring to the drawing, it will be noted that I have disclosed a milk container indicated generally at A having my liquid-dispensing valve spile B puncturing the wall 10 of the container. When the spile occupies the position shown in Figure 1, liquid C from the container may be dispensed into a pitcher D, or the like. Figure 2 discloses the spile as being partially withdrawn from the container A into a non-dispensing position. The container is provided with the usual closure flap 11, which is normally lifted for allowing liquid to be poured from the container. This flap is opened to allow venting of the container during discharge of liquid through my spile.

The spile B includes a shank designated generally at 12 having one end tapered to a point 12a for being pushed through the wall 10 at the desired height on the container. For the purpose of illustration, the container A has been shown as having cream C1 and milk C2 disposed therein. It will be obvious, of course, that only cream will be dispensed when the spile enters the cream section of the container, while only milk will be discharged when the spile extends into the milk section. A mixture of both cream and milk will be obtained when the spile enters the container at approximately the cream-milk line 14 (see Figure 2).

The drawing clearly illustrates the spile B as having an open-top channel 15 extending from an intermediate portion of the shank 12 to the discharge end 12b of the spile. This channel forms a passageway for the liquid from the container when the shank is pushed inwardly relative to the container to such an extent as to place the inlet end 15a of the channel in communication with the interior of the container (see Figure 1). However, when the shank is partially withdrawn into non-dispensing position so as to present the channel 15 out of communication with the interior of the container, discharge of liquid will be stopped.

The shank has a cylindrical portion 12c disposed between the pointed end 12a and the channel 15, which is dimensioned to have a liquid-tight seal with the margin of an opening 16 in the wall 10 when the shank is partially withdrawn into non-dispensing position (see Figure 2). The opening 16 is fashioned in the wall

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10 of the container during insertion of the spile. A flap 10a is formed around the shank 12 from the material of the wall 10 when the shank is pushed inwardly. However, this flap does not prevent entrance of liquid into the channel 15 when the spile is arranged in dispensing position (see Figure 1).

The portion of the shank that is disposed exteriorly of the container when the shank is in dispensing position is provided with upstanding walls 17 bordering the sides of the channel 15. These walls extend above the remaining portion of the shank to prevent the liquid from overflowing the channel sides. The walls 17 are close enough together to preclude a person's fingers from entering the channel 15 during handling of the spile. The walls 17 have flat opposing surfaces 17a that may be gripped by a person's fingers during insertion and withdrawal of the spile relative to the container A.

An outwardly-extending flange 19 is fashioned on the shank between the ends 15a and 12b of the channel 15. This flange abuts against the container wall 10 to limit inwardly-pushing of the shank. The flange has a recess 19a in its top forming part of the open-top channel. In other words, the channel 15 is open throughout its length so as to facilitate cleaning and sterilizing thereof.

Having thus described the various parts of my liquid-dispensing valve spile, the use thereof is summarized briefly as follows:

The operator grasps the flat opposing surfaces 17a of the shank and pierces the wall 10 of the container at the desired place with the pointed end 12a of the shank 12. As the shank is pushed inwardly in the direction of its longitudinal axis 18, the opening 16 is formed in the container wall and material from the latter will fold inwardly and provide the flap 10a surrounding the shank. The flange 19 will abut the wall 10 of the container and thus limit insertion of the shank. When the inlet end 15a of the open-top channel 15 is placed in communication with the interior of the container, liquid from the latter will commence to flow along the channel 15 for discharge from the end 12b, as shown in Figure 1. The raised walls 17 will prevent the liquid from overflowing the sides of the channel.

After the desired amount of liquid C has been dispensed, the spile B is withdrawn partially from the container A until the entire length of the channel 15 is disposed exteriorly of the container, as in Figure 2, or at least to a point where the flap 10a will form a closure over the inlet

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end 15a of the channel. This will stop further flow of the liquid. The wall of the opening 16 will have a liquid-tight seal with the cylindrical portion 12c of the spile shank to preclude leakage around the spile.

I claim:

1. In a liquid-dispensing valve spile; a shank having one end thereof tapered to a point for being pushed through a container wall; the shank having an open-top channel extending from an intermediate portion of the shank to the end of the latter opposite the pointed end; the channel forming a discharge passageway for liquid from the container when the shank is pushed inwardly relative to the container to such an extent as to place the channel in communication with the interior of the container; the shank having a portion disposed between the pointed end and the channel dimensioned to have a liquid-tight seal with the container wall when the shank is partially withdrawn into a non-dispensing position with the channel out of communication with the interior of the container; the portion of the shank that is disposed exteriorly of the container when the shank is in dispensing position having walls bordering the sides of the channel, these walls extending above the remaining portion of the shank to prevent the liquid from overflowing the channel sides.

2. In a spile for dispensing fluid material, a cylindrical shank portion having a pointed end and a pouring end portion, a stop flange separating said shank and pouring end portion for limiting insertion of the spile into a container wall, an open top discharge channel extending from an intermediate portion of said shank through said stop and pouring end portion to permit flow of material from the container, said pouring end portion having side flat walls extending above the periphery of said shank to prevent fluid from overflowing the channel sides.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,044,560	Morgan et al.	Nov. 19, 1912
1,431,860	Zurbrigg	Oct. 10, 1922
2,040,585	Wiswell	May 12, 1936
2,453,133	Jones	Nov. 9, 1948