Oct. 27, 1936. R. R. GUENTHER 2,059,101

PAPER BOTTLE

Filed April 27, 1935 2 Sheets-Sheet 1

Fig. 1.

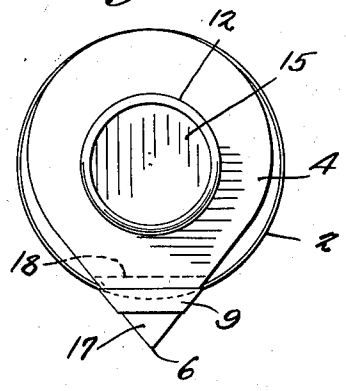


Fig. 3.

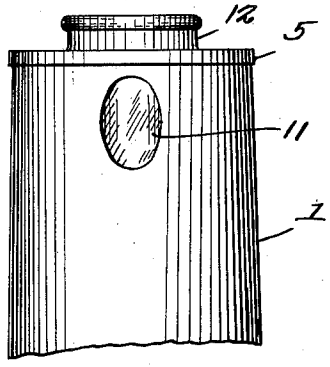


Fig. 2.

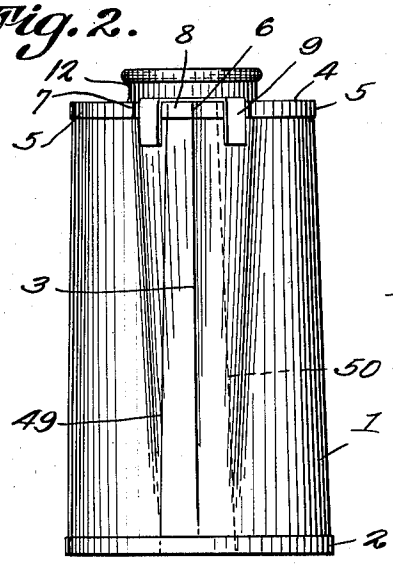


Fig. 4.

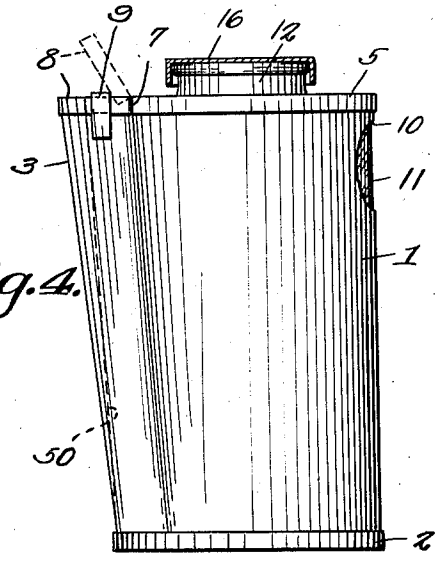


Fig. 5.

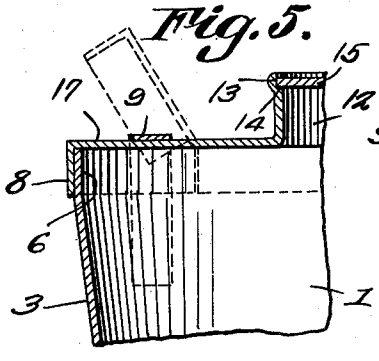
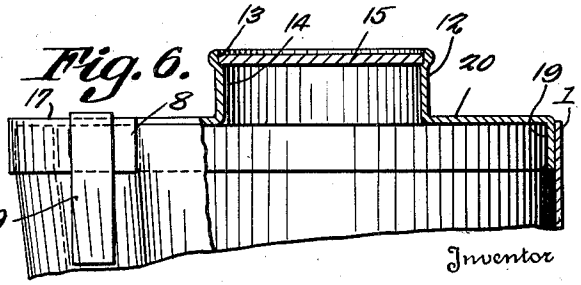


Fig. 6.



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PAPER BOTTLE

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Fig. 7.

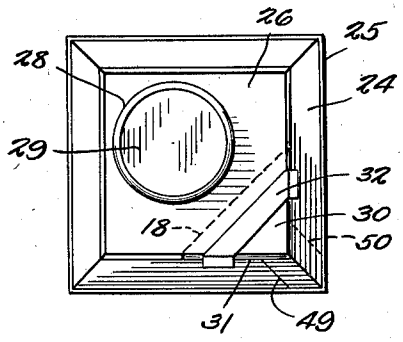
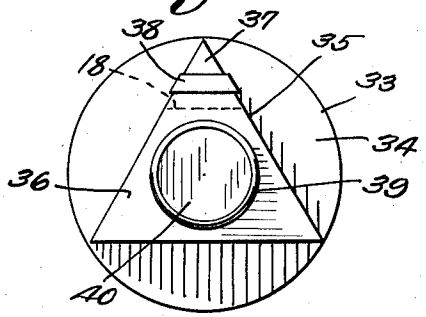


Fig. 9.



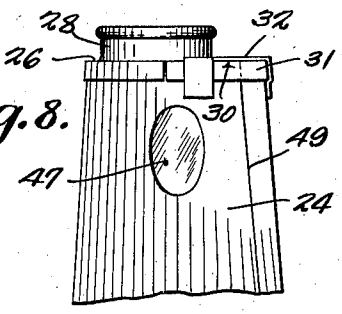
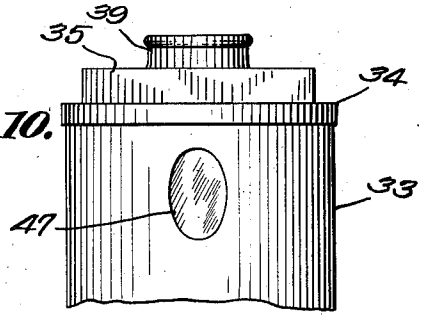


Fig. 8.

Fig. 10.



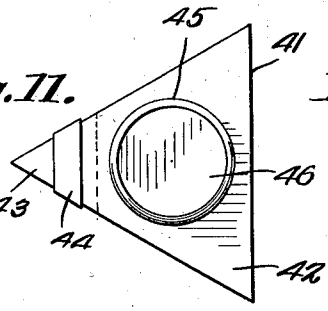


Fig. 11.

Fig. 13.

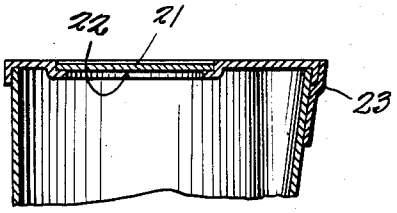


Fig. 12.

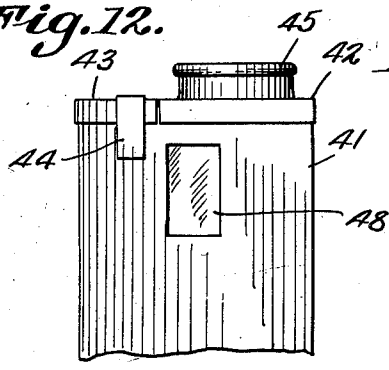
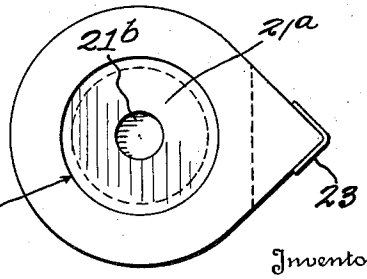


Fig. 14.



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UNITED STATES PATENT OFFICE

2,059,101

PAPER BOTTLE

Rudolph R. Guenther, Bethlehem, Pa.

Application April 27, 1935, Serial No. 18,649

9 Claims. (Cl. 229—4.5)

This invention relates to paper and cellophane bottles and is designed more especially as an improvement upon the structure disclosed in my co-pending application filed September 28, 1934, Serial No. 745,981.

An object of the invention is to provide a container of this character which, after being filled, can be sealed so that the contents cannot be poured therefrom without breaking the seal.

It is a further object of the invention to provide a bottle or other container of paper or cellophane which has a pouring spout provided with a normally sealed closure, the opening through which the container is filled, being separate and distinct from this spout or pouring portion.

A still further object is to provide a container which can be made of any suitable shapes and sizes and which can be shipped in a perfectly sterile and sanitary condition so that the danger of contaminating the material being admitted thereto during the filling operation will be practically eliminated.

Another object is to provide a container designed for holding milk, chocolate or other beverages where sanitary conditions are of primary importance, it being possible to fill the container with the ordinary filling machinery used for supplying liquids, etc., to glass bottles.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings

Figure 1 is a plan view of the bottle sealed following the filling thereof.

Figure 2 is a front elevation thereof.

Figure 3 is an elevation of a portion of the container showing that part thereof opposite to Figure 2.

Figure 4 is a side elevation.

Figure 5 is an enlarged section through the pouring spout, the closure therefor being shown, by broken lines, in open position after the seal has been broken.

Figure 6 is an enlarged view partly in side elevation and partly in section of the upper portion of the container and showing a slightly modified construction.

Figure 7 is a plan view of another modified form of container.

Figure 8 is an elevation of a portion thereof.

Figure 9 is a plan view of another form of container.

Figure 10 is an elevation of a portion thereof.

Figure 11 is a plan view of another form of container.

Figure 12 is an elevation of a portion thereof.

Figure 13 is an enlarged section through the upper portion of a container made without a neck and showing a modified spout sealing arrangement.

Figure 14 is a plan view thereof showing a temporary sealing cap in position.

Referring to the figures by characters of reference, 1 designates the body of a paper container made up of a desired number of thicknesses of paper board or the like initially made cylindrical with a circular bottom closure 2 joined thereto in any manner desired. The top portion of this body 1 is pinched longitudinally to form a radially extended spout 3 V-shaped at the top and gradually diminishing in transverse area toward the bottom of the container where it merges into the round contour of the container.

Applied to the top is a cap 4 of paper or the like of suitable strength shaped so as to fit snugly upon the container a little more than half of which, when viewed from the top, is a segment of a circle while the remainder is V-shaped as clearly indicated in Figure 1. This cap has a depending flange 5 which laps the body 1 of the container and suitably affixed or otherwise joined thereto. That portion of the flange extending along the sides of the spout 3 adjacent to the point 6 thereof is divided from flange 5 as shown at 7, this divided portion 8 of the flange being removably joined to the sides of the spout or else shaped to bear snugly thereagainst. By means of a sealing tape 9 or the like extending across the spout portion of the cap 4 and affixed to the sides of the spout, the cap can be held snugly on the spout so as to prevent escape of the contents of the container.

If desired the body 1 can be formed with a window opening 10 at any suitable point near the top thereof, the same being closed by a transparent material 11 so that the contents of the container can be inspected when desired. This is advantageous because it enables the purchaser of milk, for example, to determine the bottom level of the cream thereon.

Formed on or secured to the cap 4 in any suitable manner is a neck 12 of paper or the like

this neck being of any desired proportions and having an enlarged mouth portion 13 providing a seat 14 for engagement by a sealing cap 15. This cap can be held in place by any suitable means after the filling operation and it is designed to so proportion the neck of the container as to allow the device to be filled by the use of ordinary filling machinery such as employed in the filling of glass bottles. If desired cap 15 can be sealed by any suitable means following the filling operation and, as a sanitary measure, an outer cap or covering 16 of cellophane or other suitable material can be placed over the filling opening so as to protect the same prior to the filling operation. It is designed to apply a temporary sterile cap by machine during the manufacture of the container immediately after each bottle comes out of the paraffining operation.

The foregoing operation is to keep the paper bottle 100% sterile from the time the bottle is finished and packed into the shipping cartons, to the time that the bottles are received at the dairies. When unpacking these bottles out of their respective cartons onto the conveyors, these temporary sterile caps 16 are pulled off each bottle and discarded, just before it goes into the filling machine to be filled with whatever liquid they are being used for, such as milk, chocolate, water, etc. It will be observed by this method of closing each paper bottle manufactured with a temporary sterile cap, in the factory where the bottle is made, is a big advance toward a completely sanitary, sterile paper bottle, as the inside of the bottle as well as the filling neck portion, which contacts the filling tits on the filling machine, is not exposed to human touch at any time, and is exposed to the atmosphere in the filling room of the dairies, etc., for a few seconds only, from the time each bottle is placed on the conveyor, until the conveyor in turn carries the bottles to the filling machine, where each bottle immediately after being filled through the filling opening, is sealed with another cap; thus sealing the filling hole or opening permanently.

The consumer on receiving a container breaks the seal 9 and pulls upwardly on the flap 17 which will thus swing upwardly substantially on a line 18 scored or otherwise defined and which connects the ends of the flange 8. Thus the contents can be poured out of the spout into a receiver and if only partly removed the remainder can be protected by closing the flap 17 down onto the open end of the spout 3. It is to be observed that this flap 17 will stay closed on its own accord, because of the friction created between the two surfaces of the spout 3 and flap 17, due to the snug fit, by means of the flanges 8 on the flap 17 over the spout 3 at the top.

In Figure 6 the structure thus far described has been shown slightly modified with the flange 19 of cap 20 extended downwardly into and secured to the container body 1 while the flange 8 of the flap 17 remains unchanged and upon the outside of the container body.

Bottles of all shapes, sizes and materials embodying the present improvements can be made without neck portions and the filling openings can be provided in the flat tops as shown for example in Figures 13 and 14. In Figure 13 is shown a sealing cap 21 seated and sealed in a depression 22 after the container has been filled and which is substantially flush with the top.

To provide a temporary sterile cap for this modified arrangement prior to filling, a temporary sterile cap 21^a will be used as shown in Figure 14. This is made up of a very light and thin inexpensive stamped-out circular cap, provided with a pre-semi-punched, depressed portion 21^b, so that when given a slight pressure with one's finger, it will open a hole of sufficient size for a man to insert a finger and pull out of the bottle this temporary sterile cap, and then to be discarded.

In Figures 13 and 14 the flap over the spout has been shown held by a seal 23 fitted across or bridging the angle portion of the spout and flap. This arrangement can also be used on any or all of the other forms shown.

As shown in Figures 7 to 12 inclusive the container can be made of shapes other than that already described. Not all of the additional shapes have been shown but it is to be understood that other shapes can also be made without departing from the present invention.

As illustrated in Figures 7 and 8 the body portion of the container can be made in the shape of a pyramid frustum, this body portion 24 being closed at the bottom and at the top by rectangular caps 25 and 26 respectively. These caps can be joined to the body portion as heretofore explained and the top cap can be formed with a projecting neck 28 having a filling opening to be sealed by a cap 29 as heretofore explained. One corner portion of the cap 26 forms a sealing flap 30 similar to the flap 17 and having flanges 31 lapping the outer sides of the container and separated from the flanges of the cap 26. Flap 30 can be held closed by a breakable seal 32 or 23.

In Figure 9 a cylindrical container 33 has been shown, the same being provided with a circular cap 34 at the top thereof on which is formed or secured a triangular extension 35. This extension in turn is closed at the top by a triangular cap 36 one corner portion of which constitutes a sealing flap 37 corresponding with the flaps 17 and 30 and held closed by a seal 38 or 23. Extension 35 has a neck 39 extending therefrom with a filling opening adapted to be closed by a disk or cap 40 such as heretofore described.

Instead of providing a cylindrical body or a body of any other shape with a triangular extension 35, the entire body portion of the container can be made triangular as shown at 41 in Figures 11 and 12. In this structure the top cap is also triangular as shown at 42 and held to the body portion as heretofore explained. One corner portion of this cap 42 forms a sealing flap 43 and is held closed by a breakable seal 44 or 23. A cylindrical neck portion 45 is extended from cap 42 and is adapted to be closed by a disk or cap 46.

In all forms of the device it is preferred to provide a transparent window such as has already been described with reference to Figures 1 to 4 inclusive, the windows in the modified constructions being indicated at 47 and 48 respectively.

It will be noted that in all of the modified structures the corner portions normally closed by the sealing flaps constitute the pouring spouts whereby after a flap has been torn from closed position and pressed open, the contents of the container can be poured in a comparatively narrow stream.

It is to be observed that the seal-cap protects the lip or pouring spout against contamination from human touch at all times, due to the fact that the side flanges 8 of the flap 17 always keeps the pouring spout covered and therefore never exposed to any contamination or unsanitary han-

dling. In other words, this protected part of the spout positively cannot be touched by human hands before the seal is broken. Even after the seal is broken, the only time this protected portion of the spout could be touched is when flap 17 is lifted up and then deliberately touched.

Where the containers are made of sheet material it is preferred to locate the edges of the material at or adjacent to the spout or outlet portion of the container as has been indicated at 49 and 50 in the several views. Thus the spout portion is reinforced in the direction of its length and will not be so easily dented or pressed inwardly should the container be allowed to bear downwardly at its spout portion upon a cup or other receptacle into which the contents are being poured.

It is to be understood that any or all forms of the bottle constituting this invention can each be made of "cellophane" or other suitable transparent sheet material instead of paper. Obviously the cellophane bottle when completely finished will not be subjected to the paraffin process as all the joints for the bottoms and tops will be thoroughly cemented to the body of the bottle. The general constructions of these bottles are to be similar to and along the same lines as covered in my co-pending application filed September 28, 1934, Serial No. 745,981 and also following the same construction shown herein.

The cellophane bottles will be made in sizes ranging from one-half pints up to and including five gallon water bottles, the larger capacity bottles being made from a trifle heavier gauge cellophane stock.

What is claimed is:

1. A bottle or like container of sheet material including a body portion shaped to provide longitudinally extending walls converging at an angle to provide a pouring spout extending to the top of the body, a cap closing the top and having an extension constituting a flap normally closing the top of the spout, a breakable seal for holding said flap in closed position on the spout, a neck supported by the cap and having a filling opening, and a sealing means for said opening.

2. A bottle or like container of sheet material including a body portion shaped to provide longitudinally extending walls extending at an angle to provide a pouring spout extending to the top of the body, a cap closing the upper end of the container and having an extension constituting a flap for closing the upper end of the spout, flanges depending from said flap and lapping the adjacent surface of the body portion, and a removable seal for holding the flap to the body of the container.

3. A bottle or like container of sheet material including a body portion shaped at one end to provide longitudinally extending walls converging at an angle to provide a pouring spout, extending to the top of the body, a flanged cap closing the top end of the container and having an extension constituting a sealing flap for the top of the pouring spout, that portion of the flange depending from the flap being divided from the remaining portion of the flange, and a removable seal for holding the flap in closed position on the spout.

4. A bottle or like container of sheet material including a body portion shaped at one end to provide longitudinally extending walls converging at an angle to provide a pouring spout extending to the top of the body, a flanged cap closing the top end of the container and having an extension constituting a sealing flap for the top of the pouring spout, that portion of the flange depending from the flap being divided from the remaining portion of the flange, a removable seal for holding the flap in closed position on the spout, a neck portion upstanding from the cap, and providing a filling opening, and a sealing closure for said opening.

5. A bottle or like container of sheet material including a body portion having its walls converging at one end to provide a spout, a cap secured on said end of the body portion and having an extension constituting a flap for closing the spout, a seal for holding the flap in closed position, there being a filling opening for the admission of fluid through the cap into the container, and a sealing closure for said opening.

6. A bottle or like container of sheet material including a body portion having its walls converging at one end to provide a spout, a cap secured on said end of the body portion and having an extension constituting a flap for closing the spout, a seal for holding the flap in closed position, a neck portion upstanding from the cap and having a filling opening, a sealing closure for said opening, and a protective covering removably mounted on said neck.

7. A bottle or like container of sheet material including a body portion having its walls converging at one end to provide a spout, a cap secured on said end of the body portion and having an extension constituting a flap for closing the spout, a seal for holding the flap in closed position, there being a filling opening in the cap having a seat, and a temporary cap engaging the seat to close the opening, said cap being provided with a finger receiving depression extending partly therethrough.

8. A bottle of transparent sheet material including a body portion shaped to provide longitudinally extending walls converging at an angle to provide a pouring spout extending to the top of the body portion, a cap closing the top and having an extension constituting a flap normally closing the top end of the spout, a breakable seal for holding said flap in closed position on the spout, a neck supported by the cap and having a filling opening, and a sealing means for said opening.

9. A bottle of transparent sheet material including a body portion shaped to provide longitudinally extending walls converging at an angle to provide a pouring spout extending to the top of the body portion, a cap closing the top and having an extension constituting a flap normally closing the top end of the spout, a breakable seal for holding said flap in closed position on the spout, there being a filling opening in the cap, and a sealing means for said opening.

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