June 23, 1970 W. R. SCHOLLE 3,516,452

DISPENSING CONTAINER

Original Filed Feb. 5, 1965 3 Sheets-Sheet 1

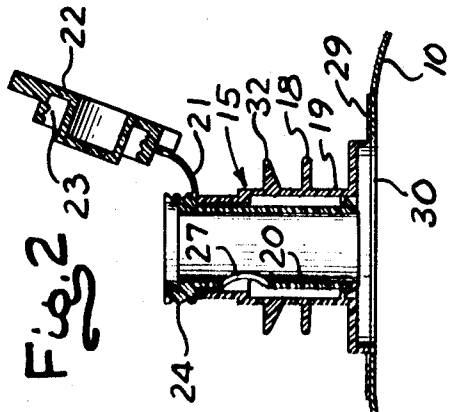



Fig. 2




Fig. 1

INVENTOR
WILLIAM R. SCHOLLE
Gary, Parker, Juettner
by: Pigott & Ackerman
ATTYS.

June 23, 1970 W. R. SCHOLLE 3,516,452

DISPENSING CONTAINER

Original Filed Feb. 5, 1965 3 Sheets-Sheet 2

Fig. 3

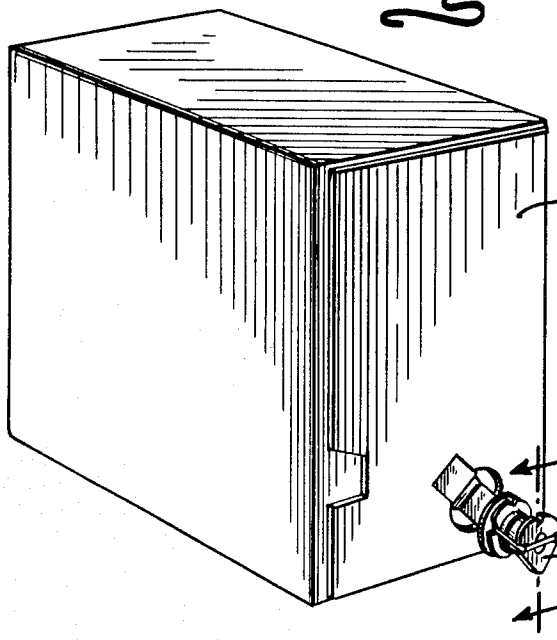


Fig. 4

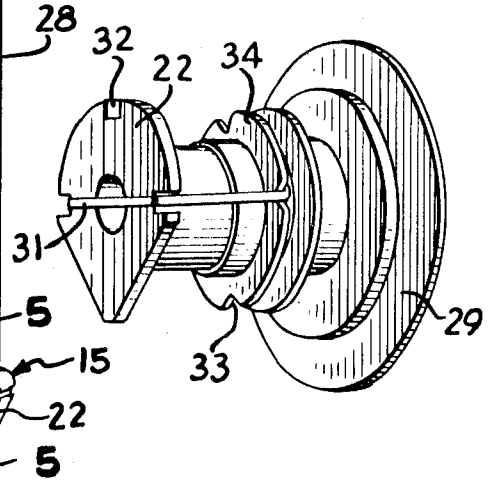



Fig. 5

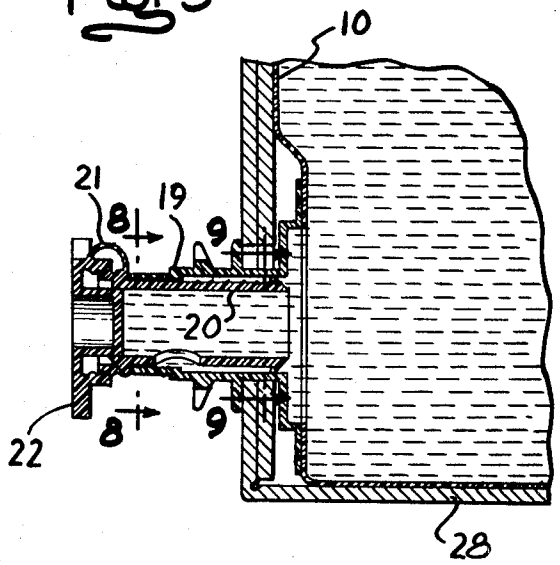
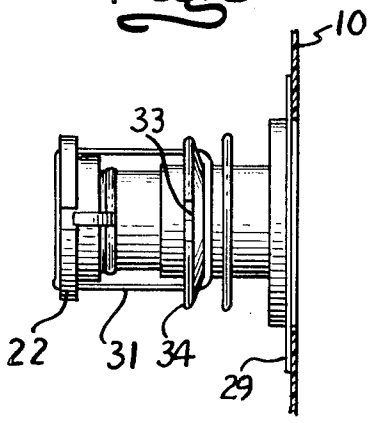



Fig. 6




INVENTOR
WILLIAM R. SCHOLLE

by: Gary, Parker, Juettner, Pigott & Cullman

ATTYS.

June 23, 1970 W. R. SCHOLLE 3,516,452

DISPENSING CONTAINER

Original Filed Feb. 5, 1965 3 Sheets-Sheet 3

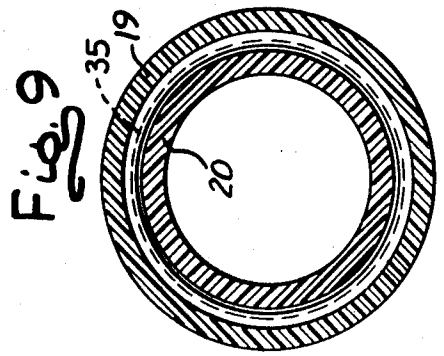



Fig. 9

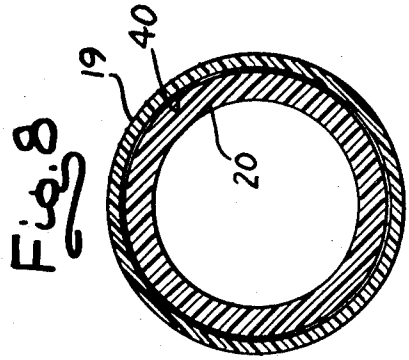



Fig. 8

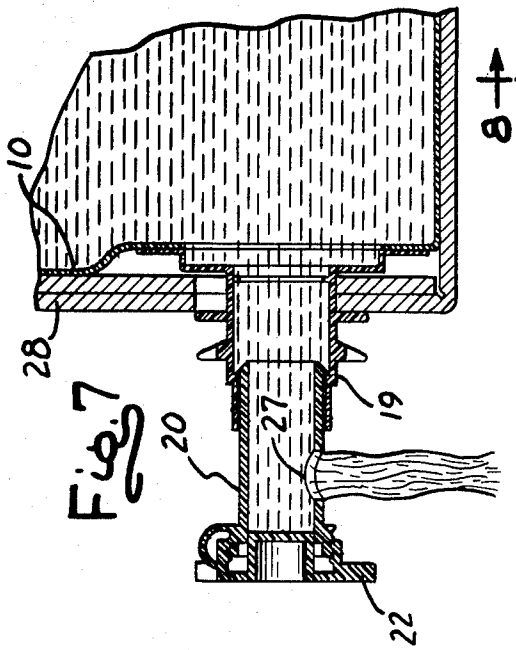



Fig. 7

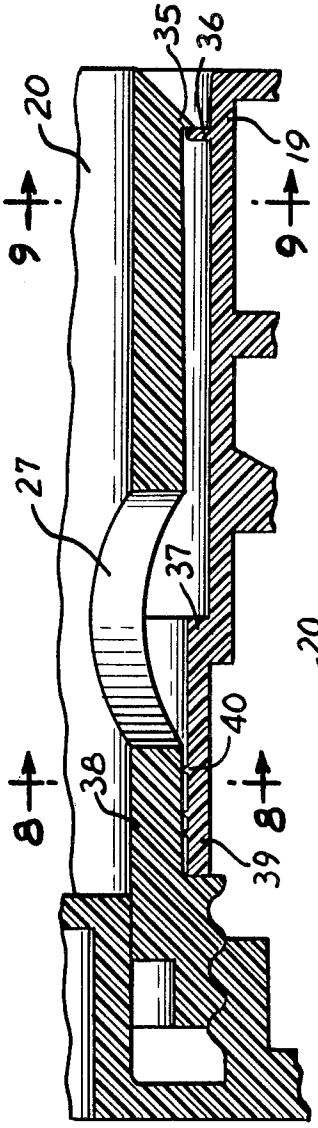



Fig. 10

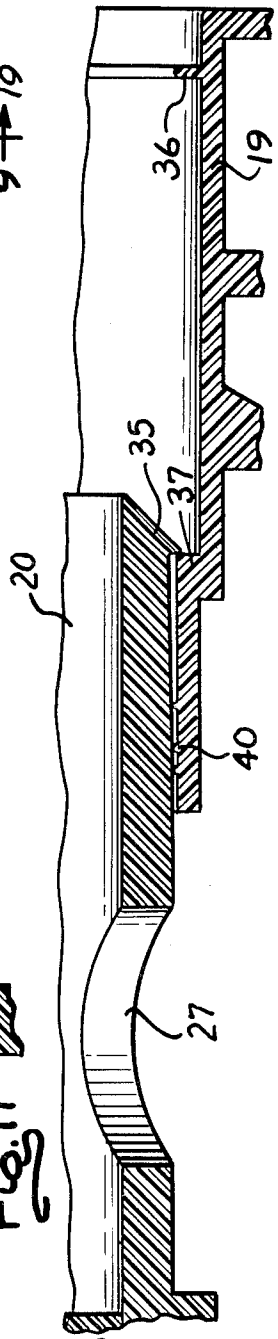



Fig. 11

INVENTOR
WILLIAM R. SCHOLLE
Gory, Parker, Jeuttner
by: Rigott & Cullman
ATTYS.

United States Patent Office 3,516,452 Patented June 23, 1970



3,516,452

# DISPENSING CONTAINER

William R. Scholle, Long Beach, Calif., assignor to Scholle Container Corporation, Northlake, Ill., a corporation of Illinois

Original application Feb. 5, 1965, Ser. No. 430,588, now Patent No. 3,427,646, dated Feb. 11, 1969. Divided and this application June 20, 1968, Ser. No. 738,488
Int. Cl. B65b 1/04, 3/04
U.S. Cl. 141—18 3 Claims

## ABSTRACT OF THE DISCLOSURE

Relates to a dispensing spigot secured to a flexible container, the spigot comprising an outer sleeve component and an inner telescopically engaged tube having a lateral opening through which the contents may be dispensed when the inner tube is withdrawn to expose the lateral opening. The outer end of the tube is further provided with a frictionally engaged separable cap by means of which the container may be filled.

This application is a division of my copending application, Ser. No. 430,588, filed Feb. 5, 1965, now U.S. Pat. No. 3,427,646.

This invention relates to improvements in dispensing containers, to filling and dispensing spigot means therefor, and to means for filling said container with fluent material.

The invention in general pertains to means for filling and dispensing fluent materials from a flexible bag generally composed of thermoplastic sheet material such as polyethylene and adapted to contain materials such as milk, water, fruit juices, chemicals and the like while the bag is disposed in a rectangular paperboard container.

It is a particular object of the present invention to provide novel means for filling such liner bags and for dispensing the contents therefrom.

The present invention pertains to the employment of spigots secured about a communicating opening in the plastic liner bag of the class aforesaid, the spigot comprising a sleeve retaining in telescopic and reciprocal engagement therein a tube closed at its outer end for dispensing purposes and having a lateral opening which is adapted to be withdrawn from the sleeve for incremental dispensing purposes and projected inwardly thereof to conceal the lateral opening at the end of the dispensing operation.

In lieu of filling a sealed bag of the class aforesaid through the lateral opening in the spigot or in lieu of probing a sealed filled bag with a combination spigot and probe, the present invention provides novel means for filling the plastic liner bag through the spigot.

More specifically the present invention provides the outer end of the reciprocal tube component of the spigot with a separable cap which normally retains the spigot closed and keeps the unfilled bag in sanitary condition until it is desired to fill the bag, said cap being removable so as to permit the bag to be filled through the resulting open end of the tube, after which the cap is reseated and dispensing can be conducted by means of the spigot in usual manner.

The invention further relates to novel means for automatically opening an endwise closed spigot, filling the liner or container bag therethrough and then reclosing the cap.

Other objects of the invention, its details of construction, arrangement of parts, and economies thereof, will be apparent from a consideration of the following specification and accompanying drawings, wherein:



FIG. 1 is a perspective view of liner bags provided with spigots in accordance with the present invention in position on a filling apparatus which automatically opens and closes the spigot closure cap.

FIG. 2 is a vertical section through a spigot of the present invention engaged to the liner bag showing the closure cap thereof in open position.

FIG. 3 is a perspective view of a paperboard container embodying the liner bag and attached spigot of the present invention.

FIG. 4 is a perspective view of the spigot of the present invention in closed position, both with respect to filling and dispensing.

FIG. 5 is a fragmentary section on the line 5—5 of FIG. 3.

FIG. 6 is a side elevational view of the spigot shown in FIG. 4.

FIG. 7 is a fragmentary sectional view similar to that of FIG. 5 but with the spigot in dispensing position.

FIG. 8 is a section on the line 8—8 of FIG. 10.

FIG. 9 is a section on the line 9—9 of FIG. 10.

FIG. 10 is an enlarged fragmentary sectional view through the spigot in non-dispensing position, and

FIG. 11 is a similar enlarged fragmentary sectional view showing the spigot in open dispensing position.

Referring to the drawings, the reference numeral **10** indicates a plastic liner or container bag seated on the platform **11** of a scale type filling device generally indicated as **12**, wherein after the contents of the bag **10** reach a predetermined weight indicated on the scale **13**, filling thereof with fluent materials through the tube **14** automatically terminates in well known manner.

During the period when the liner bag **10** is on the scale **12**, its spigot, generally indicated as **15**, is held on the scale standard portion **16** by means of the slotted holder plate **17** which engages the annular flange **18** on the sleeve portion **19** of the spigot. As shown in detail in FIG. 2, the spigot further comprises a tube portion **20** which is disposed in telescopic engagement within the sleeve **19**, this tube having integrally joined thereto by means of the flexible hinge **21** a closure cap **22**. This closure cap in the illustration shown is adapted for frictional interlocking engagement with the tube **20** by means of the inner annular ridges **23** in the cap **22** which frictionally engage and interlock with the external annular complementary ridges **24** on the tube **20**.

As further shown in FIG. 1, the cap **22** is received within the pivotally disposed holder **25** which first engages the cap **22** while it is seated on the tube **20** before filling, somewhat as shown in the right-hand portion of the illustration of FIG. 1. Upon actuation of the scale **12** by means of the electric starter button **26**, the pivotal holder **25** removes the cap **22** from the spigot tube **20** and holds it away during the time when liquid is passing from the filling tube **14** into the bag **10** through the spigot **15**. Upon termination of the filling operation when a predetermined weight has been reached and the filling tube **14** moved out of position, the holder **25** is sequentially and automatically pivoted downwardly and the cap **22** is replaced in frictional interlocking engagement over the upper end **24** of tube **20**. During this filling operation the tube **20** is held in position within the sleeve **19** so that the lateral aperture **27** in the tube **20** remains concealed and closed by the sleeve **19**.

Upon completion of the filling operation, the filled bag **10** can be dropped into the rectangular paperboard container generally indicated as **28** and the open end of the container sealed.

The sleeve **19** of the spigot includes an annular flange **29** which is bonded to the liner bag **10** about a communicating opening **30** formed therein, the flange **19**

and bag **10** being desirably fused together when both of the components are of thermoplastic material such as polyethylene, polypropylene, or the like.

To normally maintain the spigot closed and to provide resistance against accidental dispensing, resilient means such as a rubber band **31** can be extended about and between the cap **22** and the flange **32** on the spigot **15**, both the cap **22** and the flange **32** being provided with a series of peripheral notches such as at **33** and **34** for anchoring the rubber band **31**, a plurality of notches being provided in the members **22** and **34** for varied angular relationship of the cap **22** with respect to the flange **34**.

The slidable tube **20** is further provided with means for limiting its reciprocal movement within the sleeve **19**, these means comprising an annular ridge **35** adjacent the inner end of tube **20**. This ridge **35** is yieldably engageable in one position with the annular projection or rib **36** on the inner end of sleeve **19**, engagement of the ridge **35** over the rib **36** tending to hold the spigot in closed position and against accidential displacement thereof from said position until opened for dispensing, displacement requiring a small amount of force. In a similar manner, the tube **20** is held against accidental and unintended outward withdrawal or disengagement from sleeve **19** by means of the annular shoulder **37** disposed adjacent the outer end of the sleeve **19**. Thus, after the tube **20** is disengaged from the sleeve **19**, that is, when the portion **35** is drawn over the portion **36**, outward withdrawal or movement of the tube **20** from the sleeve **19** is prevented by abutment of the ridge **35** against the shoulder **37** as seen in FIG. 11. It is understood, of course, the whole assembly being made of somewhat resilient flexible plastic material, that when positively desired, the tube **20** can be fully withdrawn from the sleeve **19**, and conversely the tube can be formed separate and assembled by inserting the tube **20** so that its ridge **35** can first pass over the shoulder **37** and then when desired can pass over the rib **36**.

For providing a good seal between the parts, the outer diameter of the tube **20** is slightly enlarged adjacent its forward end as at the portion **38**, while conversely the inner diameter of the sleeve **19** can be somewhat narrowed at its forward end **39**. As an aid in maintaining a tight seal so as to prevent seepage of liquid through the aperture **27**, the sleeve **19** adjacent its end portion **39** is further provided with one or more internal annular beads **40** which act as sealing rings.



I claim:

**1.** A dispensing spigot comprising an outer sleeve component adapted to be secured at its inner end to a flexible container, and an inner telescopically engaged tube having a lateral opening through which the contents may be dispensed when the inner tube is withdrawn to expose the lateral opening, the outer end of said inner tube including a frictionally engaged separable cap whereby the container may be filled when the tubes are telescoped together to cover said lateral opening and the cap is removed.

**2.** The spigot of claim **1** including a flexible hinge integrally securing said cap to said tube.

**3.** A receptacle comprising a container composed of flexible material and a spigot comprising a sleeve member, an integral annular external flange carried by said sleeve member in bonded engagement with said container about a communicating opening formed therein, a tube in part slidably engaged within said sleeve and formed with a lateral dispensing opening adapted to be alternately covered by and withdrawn from said sleeve, one end of said tube remaining open and disposed within said sleeve, the opposed end of said tube including an annular external shoulder retaining it outwardly of said sleeve, said outer end including a separable cap whereby when the cap is removed and the tube telescoped within said sleeve to cover its lateral aperture the container can be filled with fluent material through the open outer end of said tube, the inner end of said tube including an external annular projection and said sleeve including inner annular abutment means adjacent its forward and rearward end portions, one retaining said tube against unwanted full withdrawal from said sleeve and the other yieldably retaining the tube in maximum telescoped position against unwanted dispensing.

**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 2,379,853 | 7/1945 | Smith | 222—519 |
| 2,597,165 | 5/1952 | Minturn. | |
| 3,223,117 | 12/1965 | Curie et al. | 222—522 X |
| 3,268,125 | 8/1966 | Waldrum | 222—522 X |


HOUSTON S. BELL, JR., Primary Examiner

U.S. Cl. X.R.

141—350; 220—38.5, 86