W. E. MOWERS.

BOTTLE STOPPER MEASURE.

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993,269.

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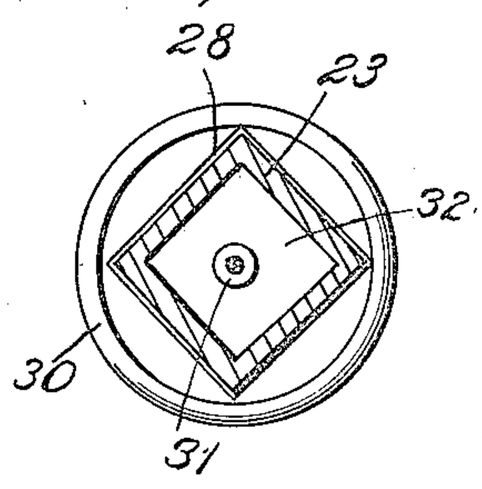
Fig. 3.



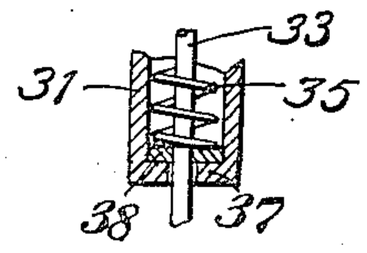


Fig. 2.

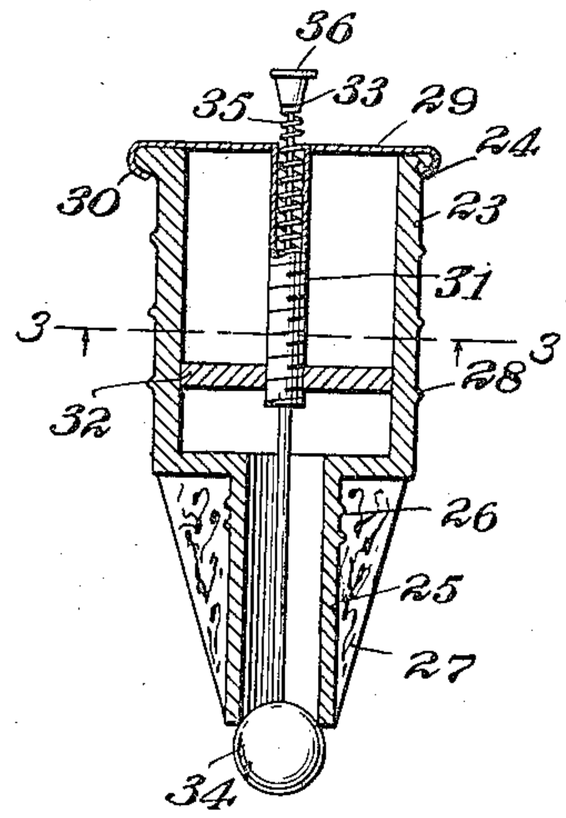


Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

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BOTTLE-STOPPER MEASURE.

993,269. Specification of Letters Patent. Patented May 23, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM E. MOWERS, citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stopper Measures, of which the following is a specification.

This invention relates to bottles and jars and refers particularly to an improved stopper to be used in connection with the same.

An object of this invention is to provide a stopper with means for measuring quantities of liquid taken from the bottle and which is so formed with a chamber and adjustable partition therein that different quantities of the liquid may be measured as it is withdrawn from the bottle. To further this object the improved stopper measure is provided with graduations and is formed of a transparent material so as to enable the user to observe the quantity of liquid which is being extracted. The graduations of the improved stopper are preferably so relatively marked as to indicate one, two and three teaspoonfuls of the liquid and a tablespoonful which are the usual quantities of doses of medicine administered.

Another object of this invention is to provide a sanitary device of this character wherein the aperture of the stopper for the receiving therefor and delivering the liquid is constantly inclosed within the bottle and protected from dust, germs and the like which accumulate about bottle stoppers especially if a liquid contained in the bottle possesses an adhesive quality. In the improved stopper there is one aperture employed which is normally incased and protected.

A further object of this invention is to form a stopper measure of this character in which space is economized by the chambering of the entire stopper thereby permitting of the formation of a small stopper which contains a relatively large amount of liquid and one which may be constructed of substantially the same size as the conventional bottle stopper.

The invention still further aims at the provision of a stopper measure which is of such formation that the same may be readily manufactured from glass without necessitating the special formation of apparatus to produce the same and one in which the operable parts thereof may be readily applied. This feature also embodies the advantage of economy in the manufacture of the article as well as the production of a stopper measure in which there are but few movable parts.

For a full understanding of the invention, the merits thereof and to acquire a knowledge of the details of construction reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a longitudinal sectional view through the improved stopper. Fig. 2 is a detail view of the plunger and its mounting. Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Referring to the drawing the improved stopper comprises a body portion 23 formed of glass and which is open at its upper end. An annular flange 24 is formed upon the upper end of the body 23 and a hollow shank 25 forms the lower termination of the body. The shank 25 is provided with a threaded portion 26 for the reception of a cone 27 formed of cork, or the like, adapted to engage within the neck of a bottle.

The body portion 23 is provided with graduations 28 which are disposed in horizontal spaced relation in the sides thereof. A cap closes the upper end of the body 23 and is adapted for rotation thereon by the provision of an annular inturned flange 30 formed about the edge of the cap 29 and engaging over a bead upon the upper end of the body 23. A sleeve 31 depends from the central portion of the cap 29 and is rigidly attached thereto. The sleeve 31 is provided with an outer threaded face passing in threaded engagement through the central portion of a sliding partition 32. The partition 32 is mounted to move vertically within the body 23 and is of angular form to prevent the rotation thereof within the body. The body 23 is of corresponding angular form to snugly receive the partition 32.

A plunger 33 slidably engages through the sleeve 31 and projects through the lower end of the sleeve into the shank 25. A ball-valve 34 is carried upon the lower end of the plunger 33 to close the lower end of the

shank 25. The plunger 33 is held normally up to close the lower end of the shank 25 by a coil spring 35 disposed within the sleeve 31 and about the plunger 33. The lower end of the spring 35 rests in the bottom of the sleeve 31 while its upper end rests against a washer 36 fixed upon the upper end of the plunger 33. The lower end of the sleeve 31 is formed with an inturned flange 37 receiving the spring 35 and carrying a packing ring 38 interposed between the spring and the flange.

From this construction it will be observed that when the cap 29 is rotated with the sleeve 31, the partition 32 moves within the body 23 by reason of its threaded engagement with the sleeve 31 and its angular form to hold it from rotation within the body. The movement of the partition 32 varies the size of the chamber within the body to register with, or between the graduations 28 formed upon the body. The washer 36 is of inverted cone-shape and is adapted to jam into the upper end of the sleeve 31 to hold the plunger 33 down against the tension of the spring 35 and keep the valve 34 open to drain the interior of the body 23.

This stopper is especially adapted for use where care is not taken in the measurement of the quantity of a medicine, or the like, taken from the bottle, when the quantity is to be fixed. The partition 32 is moved up and down within the body 23 to vary the size of the chamber in the body so that an accurate quantity of liquid can be withdrawn from the bottle without exercising any skill. It is also readily seen that the opening in the lower end of the stopper through the shank 25 is utilized not only for admitting of a quantity of liquid into the body 23 by inverting the bottle, but that it is employed for draining the body and is sealed within the bottle to protect the same from the atmosphere. In this connection it may be stated that the metallic elements of the improved stopper are preferably nickel-plated or otherwise protected from corrosion by their contact with liquids placed in the stopper and with the atmosphere.

Having thus described the invention what is claimed as new is:

1. In a bottle stopper measure, the combination of a hollow body portion provided at one end with a hollow shank which is in communication with the interior of the body portion, a cap closing the opposite end of the body portion, and rotatably mounted thereon, a sleeve projecting inwardly from the central portion of the cap and having the exterior thereof threaded, a partition slidably mounted within the interior of the hollow body portion and engaging the threaded exterior of the sleeve so as to be moved back and forth when the cap is rotated, a plunger extending longitudinally through the sleeve and the hollow shank, a valve applied to one end of the plunger and adapted to close the end of the shank, and a spring applied to the opposite end of the plunger and normally tending to move the plunger to hold the valve in a closed position.

2. In a bottle stopper measure, the combination of a hollow body portion provided at one end with means for engaging the neck of a bottle and establishing communication therewith, a cap closing the opposite end of the body portion, a sleeve projecting inwardly from the cap and opening through the said cap, a plunger extending through the sleeve, a valve upon one end of the plunger for controlling communication between the body portion and the bottle neck, and a conical shaped finger piece applied to the opposite end of the plunger, the said finger piece being adapted to be wedged in the open end of the sleeve to hold the valve in an open position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. MOWERS. [L. S.]

Witnesses:

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FRANK F. MOWERS.