Dec. 10, 1940. W. O. GEYER 2,224,222

ADAPTER FOR REAGENT BOTTLES

Filed Aug. 1, 1939

Fig. 4.

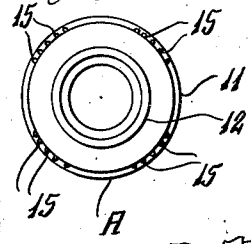


Fig. 3.

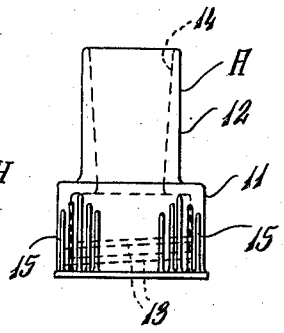


Fig. 2.

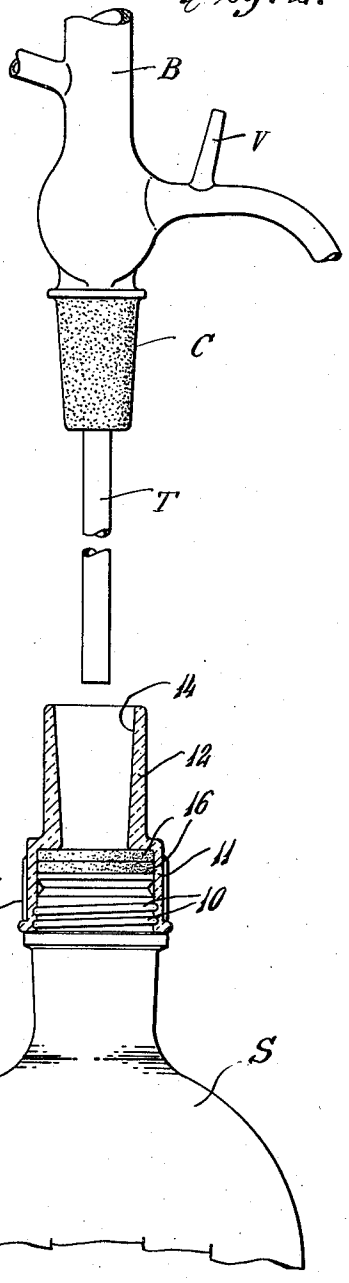
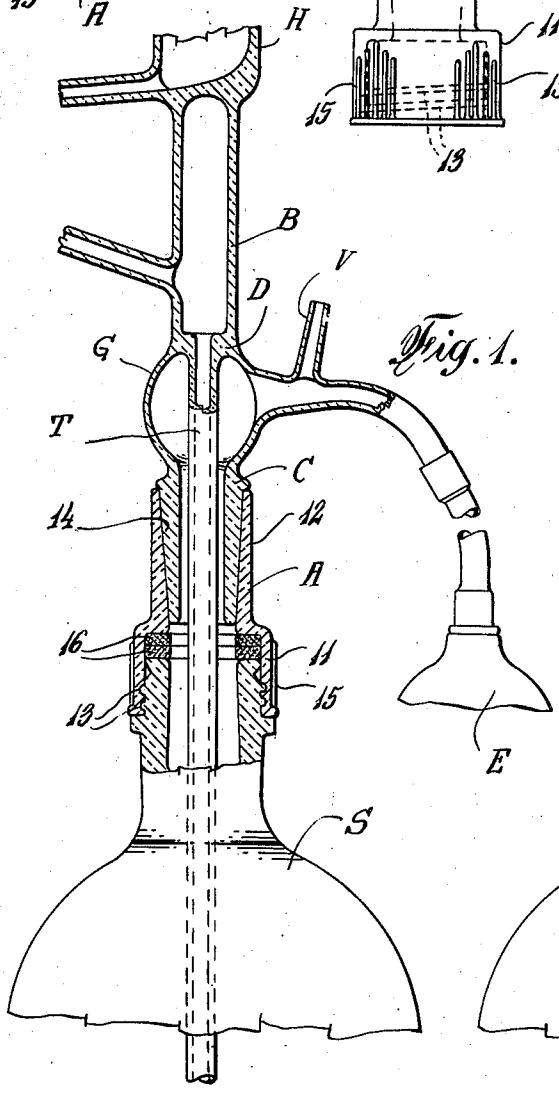


Fig. 1.



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ADAPTER FOR REAGENT BOTTLES

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Application August 1, 1939, Serial No. 287,741

2 Claims. (Cl. 285—198)

This invention relates to chemical apparatus and more particularly to an adapter means for use in connection with and in combination with screw cap reagent bottles and the automatic burette covered in my prior Patents 1,993,001, 1,973,755 and 1,973,754, issued March 5, 1935, September 18, 1934 and September 18, 1934, respectively.

One of the objects of the present invention is to provide an adapter means to operatively engage the burettes of my prior patents with screw cap reagent bottles. Another object is to provide means to extend the field of use of said burettes to screw cap reagent bottles. Other objects and advantages will be apparent as the invention is more fully hereinafter disclosed.

In accordance with these objects I have devised the adapter means illustrated in the accompanying drawing wherein:

Fig. 1 is a broken away side elevational view partly in section of the present invention shown in operative combination with a screw cap reagent bottle and an automatic burette;

Fig. 2 is a second view of the same with the burette in position to engage in the adapter means of the present invention;

Fig. 3 is a side elevational view of the adapter means of the present invention, and

Fig. 4 is a top plan view of the same.

Referring to the drawing, the automatic burette B illustrated in broken away section is typical of the kind covered in my prior Patents 1,993,001, 1,973,755 and 1,973,754 above identified. The bottom portion of the burette B is provided with a hollow tubular ground glass stopper C through which extends a centrally located tube T having a length adapting the tube to extend to adjacent the bottom of bottle S, the upper end of the tube T being sealed to and opening through partition D. Means is provided to supply a pressure of air to the chamber enclosed by globular portion G of the burette as indicated by bulb E connected to tube F opening into globular portion G, the said tube F being provided with a pressure relief valve V closable by the finger tip of the operator of the burette. The pressure of air introduced into the chamber enclosed by globular portion G passes through the stopper C around tube T and operates against the surface of fluid L in bottle S thereby forcing the fluid upwardly through tube T to a level above the partition D for delivery to the vertically sustained graduated tube H in a manner not herein necessary to explain.

In the operation of this type of burette it is essential that the pressure chamber of the burette, i. e., the chamber below partition D, communicate through the bottle neck onto the top of the fluid L in the bottle S with the minimum leakage or loss of pressure. Screw cap reagent bottles are provided adjacent the top of the bottle neck with a plurality of exterior threads 10 and with an inner opening which is substantially cylindrical and stopper member C of the burette B is not adapted to seat within the cylindrical opening of the bottle to form a pressure seal therewith. To facilitate the mounting of the burette B in operative engagement with the bottle S I have devised the adapter means A shown in cross-section in Figs. 1 and 2 and in side elevation and top plan view in Figs. 3 and 4 respectively.

The adapter means A of the present invention is comprised of acid and alkali resistant molded plastic substance, preferably of the substance known in the trade as polystyrene, or alternatively may be comprised of any organic plastic material suitable for the purpose, such as those comprised of phenol condensation products, casein derivatives, Celluloid and the like.

The adapter is comprised of a threaded cap portion or coupling member 11 provided with interior threads 13 adapted to engage the outer threads of the bottle neck and a hollow tubular seat portion 12 surmounting the cap portion, the top of the cap being provided with an opening therethrough corresponding with the diameter of the tubular portion 12, the interior of the hollow tubular portion being provided with a tapered female seat 14 adapted to receive and seat therein the stopper C on the bottom of burette B. To facilitate the engagement and disengagement of the adapter A with the bottle S the exterior of the cap 11 is provided with a plurality of ribs 15. As indicated in Figs. 1 and 2, the adapter means when engaged with bottle S is hermetically sealed thereon by washer members 16 comprised preferably of paraffine.

The adapter means of the present invention being comprised of moldable organic plastic materials which are acid and alkali resistant are strong, durable and substantially non-breakable and are usable with any reagent in bottle S. Moreover the adapter has the added advantage of forming with the ground glass surface of stopper C a substantially non-freezing seal therebetween, so that the burette B may be readily detached therefrom when desired.

The adapter means illustrated and herein described may be extensively modified without es-

sential departure from the present invention and all such modifications are contemplated as may fall within the scope of the following claims:

What I claim is:

1. An adapter for screw cap reagent bottles comprising a coupling member, said coupling member being provided with an upwardly extending hollow tubular section, the said coupling member being provided with inner threads adapted to engage the outer threads on the said bottle and the said hollow tubular section being provided with a tapered annular portion complementary to the tapered annular portion of conventional chemical apparatus to be operatively engaged with the said reagent bottle and forming a male and female joint therewith.

2. The adapter of claim 1, comprised of an organic plastic material resistant to corrosion by alkali and acid reagents.

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