Dec. 27, 1927. 1,654,065

C. A. ZAROBSKY

CLOSURE

Filed Sept. 3, 1925

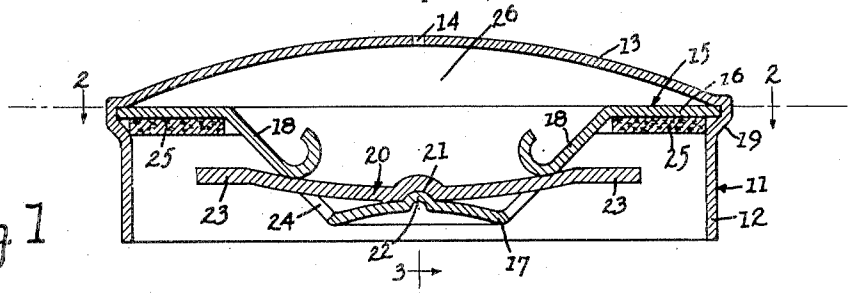


Fig. 1

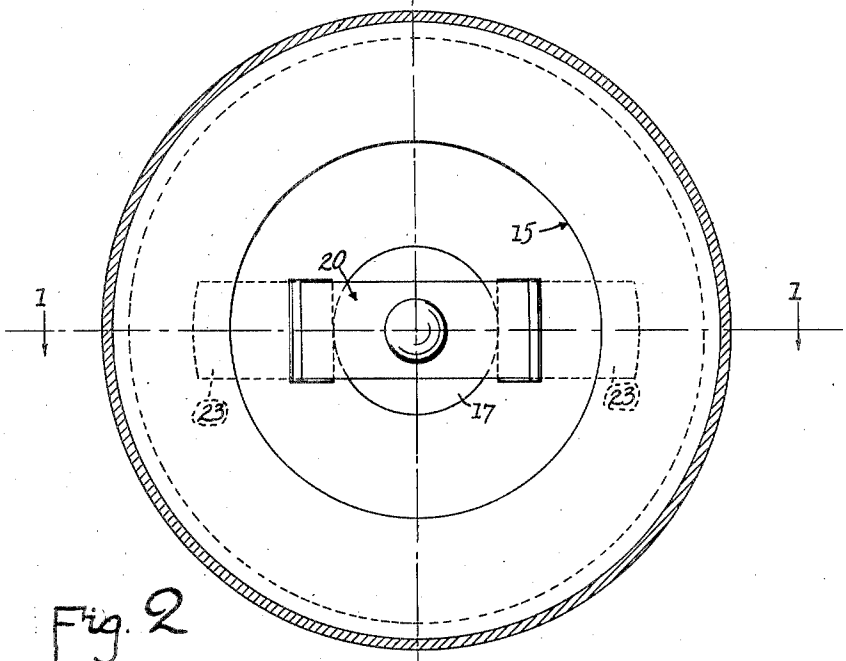


Fig. 2

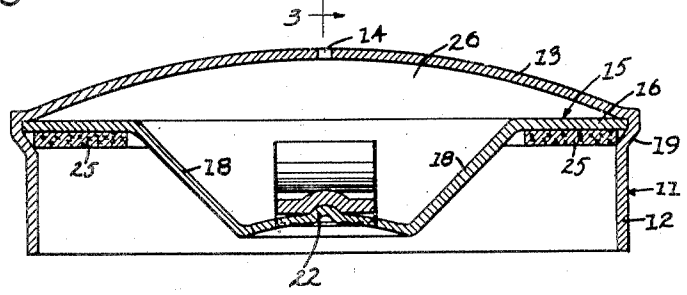


Fig. 3

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UNITED STATES PATENT OFFICE.

CHARLES A. ZAROBSKY, OF CLEVELAND, OHIO, ASSIGNOR TO THE SIMPLEX CAP COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CLOSURE.

Application filed September 3, 1925. Serial No. 54,179.

My invention relates to closures and the principal object of my invention is to provide an improved closure capable of replacing closures of a type now in use. In the drawings accompanying this specification and forming a part thereof I have shown, for purposes of illustration, one form which my invention may assume. In these drawings:

Figure 1 is a central section through this illustrative embodiment of my invention taken on the line 1—1 of Figure 2,

Figure 2 is a horizontal section through this illustrative embodiment of my invention taken on the line 2—2 of Figure 1, while

Figure 3 is a section at right angles to the section of Figure 1 taken on the line 3—3 of Figure 2.

My closure is designed for use with a tube or stem carrying the groove or slot portion of a joint of the bayonet slot type, and the particular embodiment of my invention herein shown is designed for use with a tube or stem carrying this portion of the joint on its inner surface.

The embodiment of my invention herein shown comprises a cap 11 provided with a depending portion 12 arranged to overlie the upper end of the tube or stem, and with a concave top 13 centrally apertured at 14. Within this cap 11 is a plate member 15 having its marginal portion 16 abutting the marginal portion of the top 13 of the cap 11, having its central portion 17 concaved away from the top 13 of the cap 11, having its central portion 17 and its marginal portion 16 connected by an intermediate conical portion 18, and secured in position in the cap 11 in an annular recess 19 formed by rolling in the depending portion 12 of the cap 11. Also mounted within the cap 11 is a spring member 20 provided with a depression 21 by means of which the spring member 20 is fulcrumed upon a boss 22 extending inwardly from the central portion 17 of the plate member 15, and provided also with a plurality of arms 23 extending outwardly through apertures 24 in the conical portion 18 of the plate member 15 and arranged to cooperate with the slot or cam portions of the joint carried by the tube or stem which the closure is to overlie and close.

Also mounted within the cap 11 is a washer 25 formed to be positioned between the plate member 15 and the end of the tube or stem.

From the above description it will be obvious that the closure herein shown and described is assembled on the tube or stem by movement of the entire closure longitudinally of the tube or stem in that rotative position in which the arms 23 may pass between the joint surfaces provided on the tube or stem, and that the assembling is then completed by subsequent rotative movement by which the arms 23 are moved beneath these surfaces into position holding the closure firmly and fixedly assembled on the end of the tube or stem. In this connection it will also be understood that I prefer to form this closure with the parts so arranged and proportioned that the distance from the upper faces of the arms 23 to the lower face of the washer 25 is somewhat less than the distance between the surfaces engaged by the arms 23 in assembled position and the top of the tube or stem on which the closure is assembled, whereby I am sure that in assembled position the arms 23 are sprung from their normal or rest position shown herein into a distorted position in which they are effective to maintain the closure in position on the tube or stem regardless of any vibration to which the closure may be subjected.

It will also be obvious to those skilled in the art that the inner member 15 and the cap 11 together form a chamber 26 connected to the interior of the tube or stem by the apertures 24 in the inner member 15 and to the exterior of the tube or stem by the aperture 14 in the top 13 of the cap 11, and that this arrangement affords the baffled vent required in closures for the stems of automobile gasoline tanks or automobile radiators.

It will also be obvious to those skilled in the art that the particular embodiment of my invention herein shown and described possesses advantages other than those specifically pointed out herein, and also that this

particular embodiment of my invention may be variously changed and modified without departing from the spirit of my invention or sacrificing the advantages thereof. It will therefore be understood that this disclosure is illustrative only and that my invention is not limited thereto.

I claim:

1. For use with tube provided with locking means of the bayonet joint type, a closure comprising a cap member, an inner member secured therein and provided with a central portion convexed away from said cap member and having at least two apertures, and a spring member mounted interiorly of said convex portion of said inner member fulcrumed to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means.

2. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a cap member, a plate member secured therein and provided with a central portion convexed away from said cap member to form a chamber therebetween and having at least two apertures leading into said chamber, and a spring member mounted interiorly of said convex portion of said plate member fulcrumed to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means, said cap also having an aperture leading to said chamber.

3. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a cap member, an inner member secured therein and provided with a central portion convexed away from said cap member and having at least two apertures, and a spring member fulcrumed on the inner face of said convex portion of said inner member to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means.

4. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a cap member, a plate member secured therein and provided with a central portion convexed away from said cap member to form a chamber therebetween and having at least two apertures leading into said chamber, and a spring member fulcrumed on the inner face of said convex portion of said plate member to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means, said cap also having an aperture leading to said chamber.

5. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a cap member, an inner member secured therein and provided with a central portion convexed away from said cap member and having at least two apertures and an inwardly projecting boss, and a spring member fulcrumed on said boss to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means.

6. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a cap member, a plate member secured therein and provided with a central portion convexed away from said cap member to form a chamber therebetween and having at least two apertures leading into said chamber and having also an inwardly projecting boss, and a spring member fulcrumed on said boss to permit equalization rocking of said member and provided with arms extending through said apertures into position to cooperatively engage such locking means, said cap also having an aperture leading to said chamber.

7. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a spring member provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said spring member to permit equalization rocking of said spring member, and a cap member supporting said intermediate member.

8. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a spring member provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said spring member interiorly of the rim of said intermediate member and to permit equalization rocking of said spring member, and a cap member supporting said intermediate member at said rim.

9. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a spring member provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said spring member interiorly of the rim of said intermediate member and to permit equalization rocking of said spring member, and a cap member supporting said intermediate member at said rim and having its top spaced from said intermediate member and said spring member interiorly of said rim.

10. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a resilient unit provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said resilient

unit to permit equalization rocking of said resilient unit, and a cap member supporting said intermediate member.

11. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a resilient unit provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said resilient unit interiorly of the rim of said intermediate member and to permit equalization rocking of said resilient unit, and a cap member supporting said intermediate member at said rim.

12. For use with a tube provided with locking means of the bayonet joint type, a closure comprising a resilient unit provided with arms extending into position to cooperatively engage said locking means, an intermediate member supporting said resilient unit interiorly of the rim of said intermediate member and to permit equalization rocking of said resilient unit, and a cap member supporting said intermediate member at said rim and having its top spaced from said intermediate member and said resilient unit interiorly of said rim.

In testimony whereof I hereunto affix my signature.

CHAS. A. ZAROBSKY.