May 14, 1929. J. E. GUNTER 1,713,224

CONTAINER

Filed April 1, 1926 2 Sheets-Sheet 1

Fig. 1.

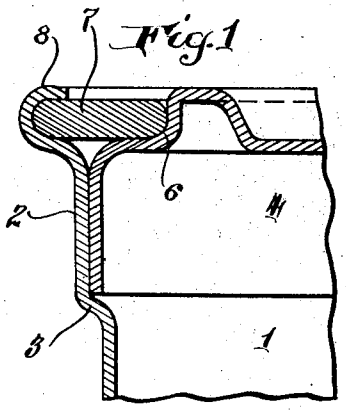



Fig. 2.

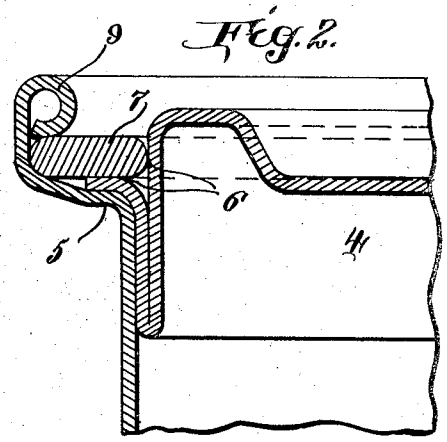



Fig. 3.

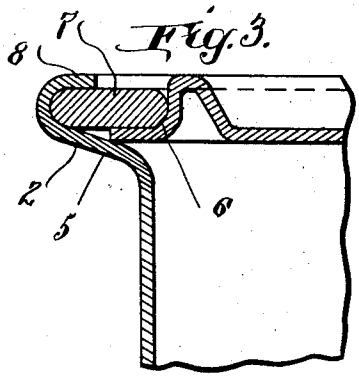



Fig. 4.

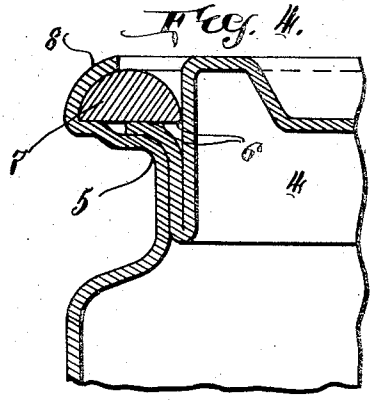



Fig. 5.

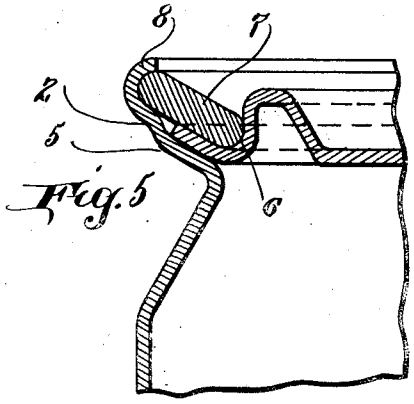
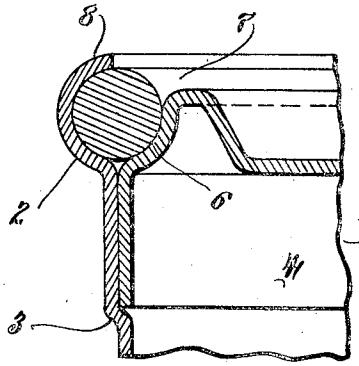



Fig. 6.




INVENTOR.
James Edw. Gunter.
BY Thomas W. J. Clark
ATTORNEY.

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CONTAINER

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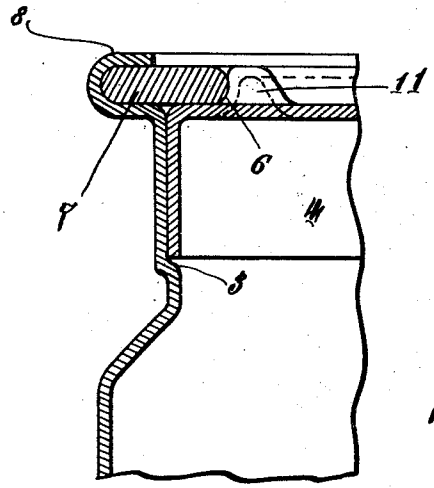



Fig. 7.

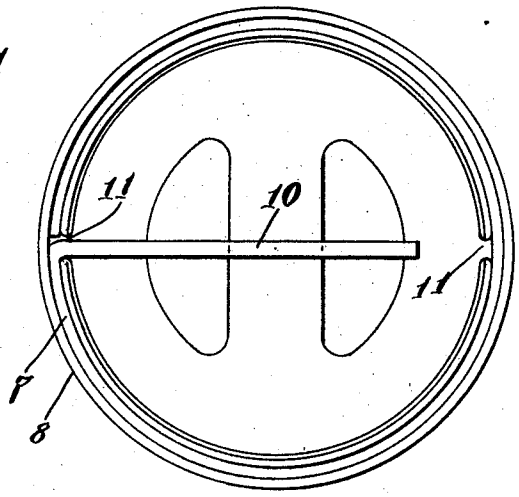



Fig. 8.

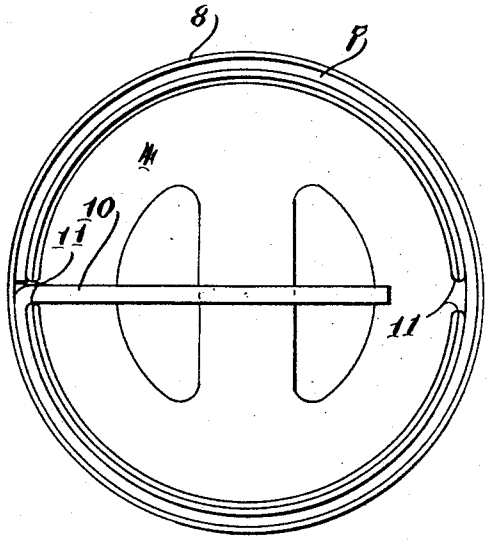



Fig. 9.

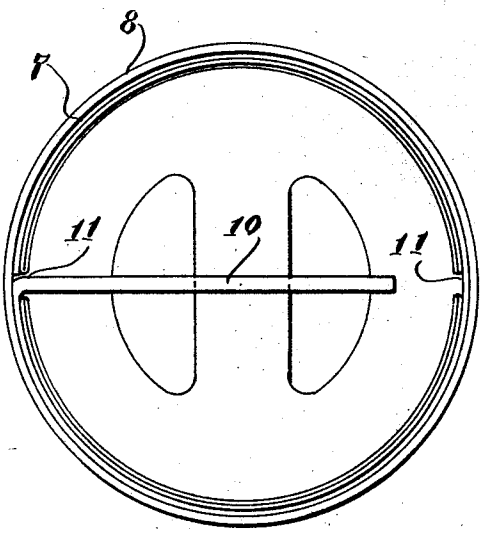



Fig. 10.

INVENTOR.
James Edw Gunter.
BY Thomas W. J. Clark
ATTORNEY.

Patented May 14, 1929. 1,713,224

# UNITED STATES PATENT OFFICE.

JAMES E. GUNTER, OF BALTIMORE, MARYLAND, ASSIGNOR TO JAMES E. GUNTER CORPORATION, A CORPORATION OF MARYLAND.

## CONTAINER.

Application filed April 1, 1926. Serial No. 98,997.

My invention relates to new and useful improvements in closures for containers and more particularly to one in which the cap retaining means may be readily removed and that without destroying the further usefulness of the container.

An object of the invention is to provide a sealed container which may be economically manufactured and the cap applied and which can be easily and certainly opened without the use of any tool, and a cap which, after the container is opened, may be satisfactorily used for closing the container while the contents are being used.

Another object of my invention is to make a container of the above type in which the cap has a friction seal with the container.

Another object of my invention is to make such a container in which the retaining ring may be of substantially any cross section such as a semi-circle, a circle or an elongated figure and in which the ring when it has a flattened side may have substantially any angle in relation to the center of the container.

Further objects and advantages will be apparent from the following description and the accompanying drawings:

Figure 1 is a cross sectional view of a flattened ring and a friction sealed container and cap.

Figure 2 is a similar view of another modification.

Figure 3 is a similar view of a different modification without the friction seal.

Figure 4 is a cross section in which the retaining ring is a semi-circle in cross section and in which the container and cap have a friction seal.

Figure 5 is a view similar to Figure 3, in which the side of the retaining ring is placed at an oblique angle in respect to a vertical line through the center of the container.

Figure 6 is a view similar to Figure 1 with a round retaining ring.

Figure 7 is a cross sectional view similar to Figure 1 showing a slightly different body conformation for the container and taken on a different line.

Figure 8 is a plan view of the modification shown in Figure 7.

Figure 9 is a plan view of the modification shown in Figure 5.

Figure 10 is a plan view of the modification shown in Figure 6.

Similar numerals refer to similar parts throughout the several views.

The container body 1 has a flared mouth 2. In Figures 1, 6 and 7 this flared mouth has a shoulder 3 slightly removed from the mouth of the container to support and hold upwardly the cap 4, the side of which has a friction engagement with the wall of the container. In Figures 2, 3, 4 and 5 the shoulder 5 is nearer the mouth of the container, and in Figures 2 and 3 it is formed by bending the mouth of the container outwardly and in Figures 4 and 5 by bending the mouth of the container inwardly and then outwardly. In all the modifications shown there is an upwardly and outwardly directed shoulder 6. In Figures 1, 3, 5, 6 and 7 this shoulder is made simply by stamping a groove into the container cap.

A retaining ring 7 in each of the views is shown pressing against the shoulder 6 and against the outer flared mouth 2 of the container. The flared mouth has a portion 8 bent over the retaining ring and pressing it firmly down against the shoulder 6. In Figure 2 this inwardly bent portion 8 has an additional bead 9 turned upon it to further strengthen the container mouth. In Figure 4 the retaining ring has a semi-circular cross section. In Figures 6 and 10 it is circular in cross section. In the other figures it is elongated. It is apparent that any cross section for the retaining ring which would hold the container cap firmly against the container shoulder would be satisfactory. The retaining ring 7 has an inwardly projecting handle 10 lying upon the cap. This handle is shown as part of the ring and it extends inwardly through a recess 11 in the shoulder 6 of the container cap. As shown in Figures 8, 9 and 10, there are two recesses 11 on opposite sides of the cap. The cap also has indented semi-circular portions called oyster ears by which to remove the cap after the retaining ring has been removed.

In assembling the container the cap is first placed in the container mouth and the retaining ring is dropped or placed upon the cap and container mouth with the handle projecting inwardly. The handle must fit

in either of the openings 11 in the shoulder 6, so that the ring abuts firmly against the shoulder 6, and the outer mouth of the container is then bent down and inwardly upon the retaining ring.

The cap is removed by pulling upwardly on the handle 10 which bends the lip 8 of the container upwardly and allows the removal of the retaining ring from between the lip 8 and the shoulder 6. Upon the removal of the retaining ring the cap may be lifted out by the oyster ears. The outer part of the shoulder 6 has a smaller periphery than the inner part of the in-turned lip 8 of the container, so that the shoulder can pass the lip freely upon the removal of the retaining ring. The cap may be used for closing the container again but the retaining ring itself can not be replaced except by the use of machinery, so that when the container is once opened it can not ordinarily be closed without the prior opening being detected.

The retaining ring may be made of any material or as above stated of any cross section or it even may be hollow, its only requirement being that it hold its form under the stresses to which it is subjected, and that it have sufficient tensile strength to be pulled out.

As many changes might be made in the above arrangements and as many variations may be made without departing from the scope of the invention, it is intended that all features herein described or shown in the accompanying drawings shall be interpreted as illustrative, and that the invention be limited only by the following claims.

I claim:

1. The method of assembling a container having cap supporting means therein, a cap having a substantially vertical shoulder and a retaining ring, which consists in placing the cap within an open end of a container and against said supporting means, placing the retaining ring within the container so that it abuts against said shoulder, and bending the wall of the open end of the container partially over the ring to hold the ring in its abutting position against said shoulder.

2. In a container, a cap fitting within and being upheld by the container wall, a substantially vertical peripheral shoulder extending part way around said cap, a retaining ring within the container abutting against said shoulder, said wall partially overlapping the ring and holding the ring in its shoulder abutting position, said ring having a handle projecting from between said cap and overlapping wall, and to one side of said shoulder.

3. In a container, a cap fitting within an open end of the container, an inwardly extending peripheral shoulder on the wall of said container, adjacent said open end, adapted to be engaged by and to support said cap, an upwardly and outwardly directed shoulder extending part way around said cap, a retaining ring within the container abutting against said shoulder, said wall partially overlapping the ring thereby holding the ring in its shoulder abutting position, and said ring having a handle projecting from between said cap and overlapping wall, and to one side of said shoulder.

4. In a container, a cap fitting within an open end of the container, means formed upon the interior of the container wall adjacent said open end adapted to be engaged by and to support said cap, a substantially vertical shoulder extending part way around said cap, a retaining ring within the container abutting against said shoulder, said wall partially overlapping the ring, thereby holding the ring in its shoulder abutting position, and said ring having a handle projecting from between said cap and overlapping wall, and to one side of said shoulder.

5. In a container, a cap fitting within and being upheld by the container wall, a plurality of upwardly and outwardly directed shoulders on said cap, a retaining ring within the container and abutting against said shoulders, said wall partially overlapping the ring, thereby holding the ring in its shoulders abutting position, and said ring having a handle projecting from between adjacent shoulders and said overlapping wall.

6. The method of assembling a container having cap supporting means therein, a cap having an upwardly and outwardly directed shoulder and a retaining ring having a handle, which consists in placing the cap within an open end of the container and against said supporting means, placing the retaining ring within the container so that it abuts against said shoulder, and bending the wall of the open end of the container partially over the ring to hold the ring in its abutting position against said shoulder, the handle of said ring projecting from between said cap and bent over wall.

JAMES EDW. GUNTER.