

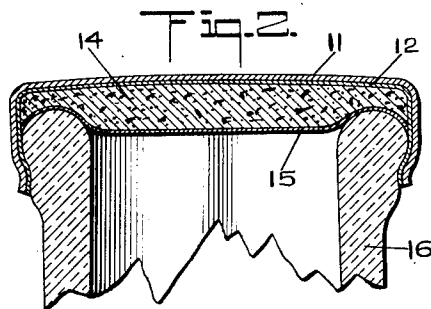
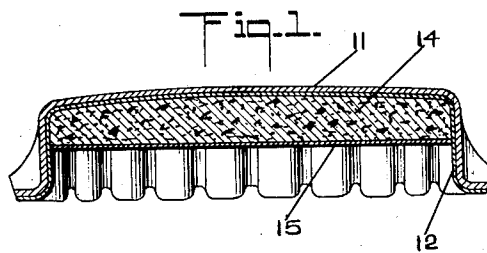
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A. H. WARTH

BOTTLE CAP

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## UNITED STATES PATENT OFFICE.

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## BOTTLE CAP.

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This invention relates to bottle caps, and more particularly to closures for packaging sulphuric acid.

At the present time, sulphuric acid is being marketed in increasing quantities in relatively small packages for general or household use, due to its demand for automobile and radio batteries, fire extinguishers, and the like. Various forms of closures have been devised for use in packaging sulphuric acid but they have all proved objectionable for one reason or another. For example, they lack proper sealing qualities; they are inconvenient for general use; or they are excessively expensive. Closures of the well known crown cork type, while possessing excellent sealing qualities and other advantages, are not practical for packaging sulphuric acid. These closures ordinarily comprise a tin-plate shell and a cork sealing disk. Sulphuric acid, however, tends to destroy the cork, whereby it can seep through to the metal shell which becomes corroded and ultimately destroyed.

It is an object of the present invention to provide a closure that is suitable for packaging sulphuric acid; that is economical to manufacture and handy for the consumer; and that gives an effective seal.

With these general objects, and others, in view, the invention consists in the features, combinations, details of construction and arrangements of parts which will first be described in connection with the accompanying drawing and then more particularly pointed out.

In the drawing:

Figure 1 is a sectional view of a closure constructed in accordance with the invention; and,

Figure 2 is a similar view showing the closure attached to a bottle.

Referring to the drawing, the cap or closure illustrated as an example, comprises a crown shell having a corrugated skirt. This crown shell is composed of a basic layer 11 of so-called tin-plate and a thin over-all lining 12 of a material capable of resist-

ing the action of sulphuric acid, e. g. sheet lead. In forming the crown shell, a thin lead sheet may be secured to a sheet of tin-plate by means of a suitable adhesive. From this unitary sheet the crown shells are stamped out in the usual manner of forming ordinary crowns.

Within the skirt of the crown shell is a two-part sealing disk. This comprises a cushioning layer 14 of some resilient material, such as felt or cork, and an outer facing 15 of acid-resisting material, e. g. substantially pure lead. The lead facing may be secured to the felt and the compound sealing disk secured in the shell by any suitable adhesive.

The closure is applied in the usual manner of applying crown corks, that is, a tight seal is effected by pressure and the skirt of the shell is bent around the locking ring of the bottle to hold the closure in sealing relation.

The construction described provides a closure suitable for packaging sulphuric acid since nothing but lead is presented to the acid contents of the bottle and lead resists the action of the acid. At the same time, the cushioning effect of the sealing disk coupled with the lock of the corrugated skirt on the bottle gives an effective tight seal. Moreover, the closure is economical to manufacture and it is handy for the consumer as it can be removed by means of the ordinary bottle opener.

What is claimed is:

1. A bottle cap comprising a crown shell having an over-all lining of thin sheet lead, a resilient sealing disk within the skirt of the shell, and a facing of substantially pure lead on said sealing disk.

2. A bottle cap comprising a crown shell consisting of a tin-plate base and an over-all lining of thin sheet lead, and a sealing disk consisting of an inner layer of felt and an outer facing of lead.

In testimony whereof, I have hereunto set my hand.

ALBIN H. WARTH.