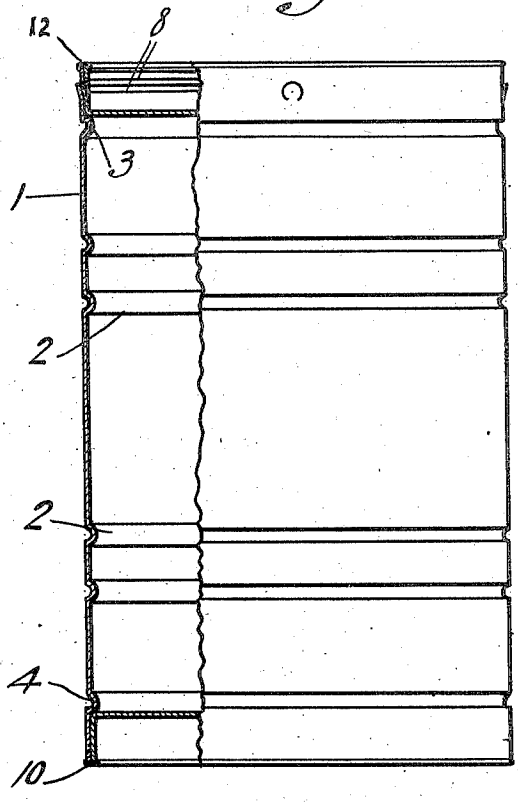
G. R. PENN.

PAPER BOTTLE.

APPLICATION FILED FEB. 21, 1919.

1,315,394. Patented Sept. 9, 1919.

Fig. 1.



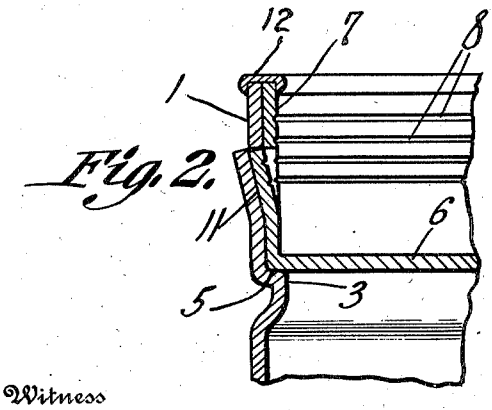


Fig. 2.

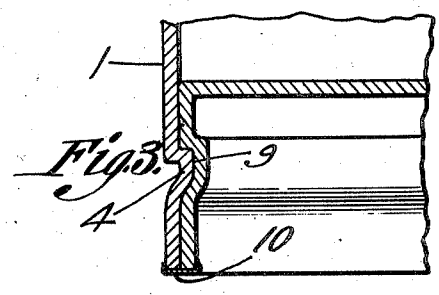


Fig. 3.

Witness

J. P. Fowling

Inventor

G. R. Penn

By C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

GEORGE R. PENN, OF BALTIMORE, MARYLAND.

PAPER BOTTLE.

1,315,394. Specification of Letters Patent. Patented Sept. 9, 1919.

Application filed February 21, 1919. Serial No. 278,388.

To all whom it may concern:

Be it known that I, GEORGE R. PENN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented a new and useful Paper Bottle, of which the following is a specification.

This invention relates to paper bottles and one of its objects is to provide a container of this character having end closures all portions of which are located entirely within the walls of the container so that a number of the containers can be packed in a carton which would be too small to hold a like number of containers of the same capacity having caps extending around or housing the ends of the containers.

A further object is to provide a container utilizing flat abutments or shoulders constituting seats for the inserted caps, thus to constitute a more efficient seal than would otherwise be possible.

Another object is to provide a removable cap having simple and efficient means for stiffening the flange thereof, said means also serving to facilitate the removal of the cap without requiring the use of a tab or the like, as heretofore.

A still further object is to provide novel means for sealing the caps when placed in the container, thereby to render the container air tight.

Another object is to provide novel means for locking the caps in position.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims it being understood that various changes may be made in the proportions and arrangements of the parts without departing from the spirit or sacrificing any of the advantages of the invention as set forth in the appended claims.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings—

Figure 1 is a view partly in section and partly in elevation of a paper bottle embodying the present improvements.

Fig. 2 is an enlarged section through a portion of one cap and showing the means for detachably securing it in place.

Fig. 3 is an enlarged section through a portion of a container and showing a modified means for securing the cap in position.

Referring to the figures by characters of reference, 1 is a paper container stiffened or reinforced wherever desired by ribs 2 pressed thereinto. Stop ribs 3 and 4 are pressed into the end portions of the container and each is preferably formed with its outer face flat, as at 5, thus to present a flat shoulder or seat for the end closure of the container. These flat shoulders, 5, are perpendicular to the axis of the container thereby to stiffen the container against pressure along radial lines.

Each closure includes a paper disk 6 so proportioned as to fit snugly within one end portion of the container and to rest upon the shoulder 5, said disk having a flange 7 adapted to fit against the inner surface of the wall of the closure and to be supported with its free edge flush with the end of the closure.

For the purpose of stiffening the flange of the closure at one end of the container, parallel grooves 8 are pressed into the inner face thereof, these grooves also constituting means for facilitating the removal of the closure as hereinafter pointed out. These grooves serve to keep the closure in shape prior to its insertion into the container. The closure in the other end of the container and which constitutes the bottom of the device is not to be removably mounted. Instead it can be held in place by a suitable adhesive, paraffin, or the like, as shown in Fig. 1 or, if preferred and as shown in Fig. 3, an annular groove 9 can be pressed into the flange of the bottom closure so that said closure can be snapped into place to bring the rib 4 into the groove. In either case the connection between the container and the bottom cap is sealed by placing the lower end of the container in a film of melted paraffin thus to leave a thin layer of the paraffin upon the bottom edges of the container and its bottom closure as shown at 10.

After the container has been filled with a liquid, powder, or other material, the top closure is inserted thereinto so as to become seated snugly upon the shoulder of the rib 3. By the use of a hand punch or other device, incisions are made in the contacting portions of the flange 7 and the container wall so as to produce outwardly and upwardly inclined locking tongues or barbs 11 each made up of the two thicknesses of material. The thick-

ness cut from the flange 7 will be pressed out into the opening formed in the wall of the container, as shown clearly in Fig. 2. Thus it will be seen that by perforating the flange of the cap and the container at intervals, the cap will be locked securely in position. The cap can be unlocked, however, by pressing the tongues inwardly until they lie flush with the faces of the flange and container wall and fill the openings. By then placing a finger nail in one of the grooves 8 the cap can be pulled out of the container and the contents removed.

If desired, and as shown in Figs. 1 and 2 the top of the container can be sealed by standing the closed container in an inverted position within a film of hot paraffin thus to form a thin layer of paraffin upon the edge of the container and the flange of its cap, as shown at 12. Also, if desired, a small amount of paraffin can be placed in the openings where the tongues 11 are located, thus to close the openings and likewise prevent the tongues from being pressed back into the openings while the container is being handled. However under ordinary circumstances the paraffin in the openings is unnecessary.

What is claimed is:—

1. The combination with a paper container having an exterior annular groove, of a stiffening rib formed by pressing the groove into the container and having a flat stiffening face perpendicular to the axis of the container, and a closure insertible into the container and into engagement with said face.

2. The combination with a paper container, of a stiffening rib pressed thereinto, a flanged paper closure insertible into the container and into engagement with the rib, there being annular grooves pressed into the inner surface of the flange of the closure for holding the closure in shape prior to insertion.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE R. PENN.

Witnesses:

FRANCIS M. MOLLOY,

J. KENNETH HEALY.