

C. C. PARKER.
 BOTTLE SEALING DEVICE.
 APPLICATION FILED MAR. 28, 1911.

1,002,079.

Patented Aug. 29, 1911.

Fig. 4.

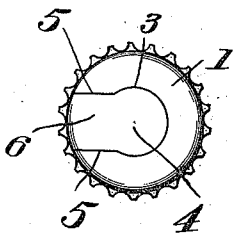


Fig. 5.

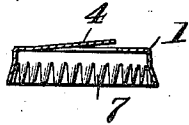


Fig. 6.

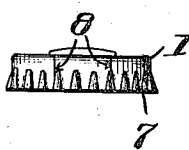


Fig. 7.

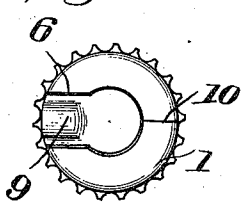


Fig. 8.

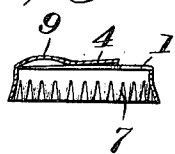


Fig. 1.

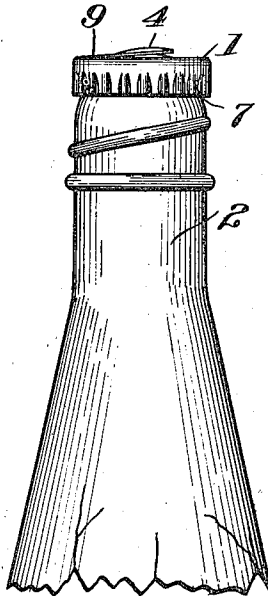


Fig. 2.

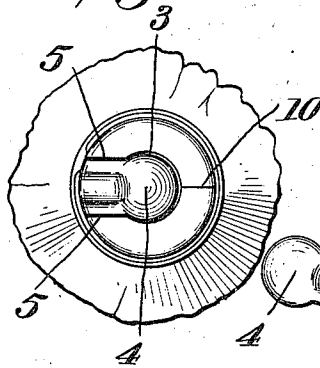


Fig. 9.

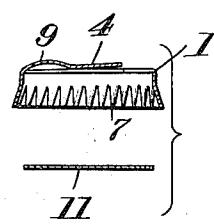


Fig. 10.

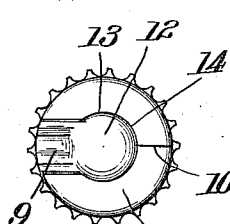


Fig. 11.

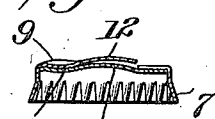


Fig. 12.

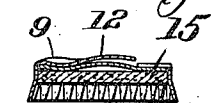
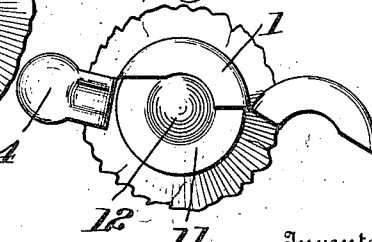


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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BOTTLE-SEALING DEVICE.

1,002,079.

Specification of Letters Patent. Patented Aug. 29, 1911.

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To all whom it may concern:

Be it known that I, CHARLES C. PARKER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Sealing Devices, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

The invention relates to new and useful improvements in bottle seals, and more especially to bottle seals used for effectively closing bottles containing gaseous liquids.

An object of the invention is to provide a bottle seal which is so secured to the bottle that the same may be quickly removed by the usual tools which engage projecting portions at the lower edge of the cap, or which cap may be quickly removed by hand through the aid of a breaking strip.

A further object of the invention, is to provide a bottle seal comprising a metal cap having a continuous retaining flange, with a breaking strip which is constructed so as to bring the breaking strain at the proper point to rupture the retaining flange.

A further object of the invention is to form a bottle sealing cap from a single piece of metal, wherein the finger-piece for bending the breaking strip is cut from the metal forming the cap, and is so shaped as to avoid all possible chance of the finger-piece being locked to the bottle in applying the cap.

These and other objects will in part be obvious, and will in part be hereinafter more fully described.

In the drawings which show by way of illustration one embodiment of the invention; Figure 1 is a side view showing a bottle having my improved cap applied thereto; Fig. 2 is a top view thereof; Fig. 3 is a view similar to Fig. 2, showing the cap ruptured, whereby it may be removed from the bottle. Fig. 4 shows a metal cap in plan, after it has been subjected to the first steps in the method of producing my improved cap; Fig. 5 is a sectional view of the same; Fig. 6 is a side view of the same; Fig. 7 is a view similar to Fig. 4, after the cap is subjected to the second step in the method of forming my improved cap; Fig. 8 is a sectional view of the same; Fig. 9 is view similar to Fig. 8, showing the sealing disk which

is seated within the cap and engages the inwardly projecting ledge of the cap; Fig. 10 is a plan view of the cap, after the sealing disk has been placed therein, and the finger-piece crowned; Fig. 11 is a sectional view of the cap shown in Fig. 10; Fig. 12 is a sectional view showing the sealing disk of cork applied to the cap, and the cap in finished condition, ready to be applied to the bottle.

I am aware that prior to my invention, metal sealing caps have been constructed wherein a continuous locking flange engages the securing lip or shoulder on the bottle, so that the cap is firmly attached to the bottle, and the cap may therefore be used in connection with bottles which contain gaseous liquids wherein the internal pressure is considerable. I am also aware that bottle caps have been constructed which may be readily removed by hand, by bending a portion of the cap so as to rupture the retaining parts of the cap.

My invention however, generally consists in constructing a cap having all the essential features necessary for sealing the bottle so that the same may be filled with gaseous liquids and withstand the internal pressure, which cap is also provided with devices which may be manipulated by hand for rupturing the retaining flange.

One of the essential features of my improved cap therefore, consists in a depending flange which has a continuous lower edge for firmly gripping the locking lip or shoulder at the mouth of the bottle.

Another essential feature of my cap consists of an inwardly projecting ledge, which extends a sufficient distance over the top of the bottle, as to firmly engage the sealing disk or sealing cork, so that said sealing parts are locked by the retaining flange and held.

Another essential feature of my invention, consists in severing the ledge and the upper portion of the flange, and forming a finger-piece integral with the ledge, so as to provide a breaking strip for rupturing the remainder of the flange to release the cap from the bottle. This breaking strip is preferably formed with a rib extending longitudinally thereof, so as to bring the breaking strain at the proper point to rupture the depending flange. It is also desirable to form the finger-piece by severing the cap concentrically thereof, and when the

finger-piece is so formed, I provide said finger-piece with a crown after it is cut, so as to withdraw the outer edge thereof from any possible contact with the inwardly projecting ledge. I also desire to sever the inwardly projecting ledge at a point opposite the breaking strip so as to allow the cap to be readily removed from the bottle neck after the flange is ruptured.

10 Referring more particularly to the drawings, I will now describe my cap, setting forth the essential steps in the method of making the same, and the essential features of construction.

15 The cap may be made from any suitable metal. The cap 1 is formed with a depending flange whereby the cap is locked to the bottle neck 2. I prefer to form the lower portion of the depending flange with vertical corrugations so that when the cap is applied to the bottle, said cap may be crowded into a tapered collar which will cause the inwardly projecting parts of the corrugations to lock underneath the usual retaining lip or shoulder at the mouth of the bottle. It is well understood that a cap of this character may be engaged by a suitable tool which catches underneath the outwardly projecting corrugations and pries the cap from the mouth of the bottle. It will be understood however, from certain aspects of the invention, the depending flange may not necessarily be corrugated, but may be curled or curved by a suitable tool underneath the locking lip or shoulder, so as to secure the cap firmly to the bottle.

A cap of the above character is first severed as shown in Fig. 4. The concentric line of severance 3 forms what I term a finger-piece 4. The parallel lines of severance 5 form what I term a breaking strip 6, which is integrally attached to the finger-piece, thus forming a narrow neck connection with the finger-piece. The upper portion of the depending flange 7 is severed as at 8, so as to form a continuation of the breaking strip 6.

In the second step of the method of making my cap, I form the narrow breaking strip 6 with the rib or corrugations 9, which extend longitudinally thereof. This rib laterally strengthens the breaking strip so that when the breaking strip is lifted by the finger-piece, the breaking strain will be properly positioned so as to rupture the lower portion of the retaining flange in a line with one of the lines of severance 8. At the same time that the strengthening-rib 9 is formed, I prefer to sever the inwardly projecting ledge as at 10, which is a point substantially diametrically opposite the strengthening rib. A sealing disk 11 is now placed within the cap 1, and the finger-piece 4, and also the sealing disk 11, are crowned as at 12. This crowning or

raising of the central portion of the finger-piece, will contract the outer edge 13 of the finger-piece so as to space the same from the inner edge 14 of the inwardly projecting ledge. The forming of the breaking strip with a central rib also contracts the same laterally, and tends to withdraw the outer side edges from contact with the inwardly projecting ledge. This avoids any liability of the breaking strip and finger-piece being locked to the bottle when the cap is applied thereto. The crowning of the sealing disk forms a reinforcing support for the finger-piece, and prevents the collapsing of the crown of the finger-piece during shipment or handling, which might cause the finger-piece to be locked by the surrounding ledge.

A sealing disk of cork is preferably placed within the cap as shown in Fig. 12, and this completes the cap so that the same may be readily attached to the mouth of the bottle. When the cap is applied to a bottle, the depending flange is bent inwardly so as to firmly grip the locking lip or shoulder of the bottle, and the inwardly projecting ledge of the cap through the aid of the sealing disk 11, will firmly hold the cork 15 against the mouth of the bottle. The continuous locking flange will hold the cap on the bottle against extreme internal pressures, and therefore my cap may be used for sealing bottles containing gaseous liquids or the like. When it is desired to remove the cap, the usual tool may be applied, catching underneath the projecting portions of the depending flange, and the cap readily pried from the bottle. If however, the desired tool is not accessible for removing the cap, the finger-piece 4 may be readily lifted as the edge thereof is entirely free from contact with the inwardly projecting ledge on the cap. This lifting of the finger-piece will raise the breaking strip, which being corrugated or ribbed longitudinally, will convey the breaking strain to the proper point to rupture the depending flange. As soon as the flange is ruptured, one portion of the cap may be swung on the other owing to the cutting of the ledge at the point 10 as clearly shown in Fig. 3.

It is obvious that certain of the features above described may be omitted or modified, without in any way affecting the action of the other features of my improved cap, or departing from the spirit of my invention, as defined in the appended claims.

Having thus particularly described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A bottle seal comprising a sheet metal cap, having a corrugated depending flange provided with a continuous lower portion, an inwardly projecting ledge formed integrally with said flange, the upper portion of said flange and said ledge

being severed to form a breaking strip, and a finger-piece formed integrally with said strip, said strip being bent longitudinally thereof, subsequently to the severing of the ledge to form the breaking strip whereby said strip is strengthened and the side edges of the same are withdrawn from locking contact with the side edges of the ledge.

2. A bottle seal comprising a sheet metal cap, having a top portion and a depending flange, said depending flange being corrugated and provided with a continuous lower portion, said top portion being severed concentrically with said cap to form an inwardly projecting ledge and a finger-piece with a narrow neck connecting said finger-piece to said ledge, said finger-piece being bent to separate the outer edge thereof from the inner edge of said ledge, said ledge and the upper portion of said flange being severed on a line extending outwardly from a point adjacent said narrow neck.

3. A bottle seal comprising a sheet-metal cap, having a top portion and a depending flange, said top portion being severed concentrically with said cap to form an inwardly projecting ledge and a finger-piece with a narrow neck connecting said finger-piece to said ledge, said finger-piece being crowned to separate the outer edge thereof from the inner edge of said ledge, said ledge and the upper portion of said flange being severed on lines extending outwardly from points adjacent the sides of said narrow neck to form a breaking strip, said breaking strip being provided with a rib extending longitudinally thereof.

4. A bottle seal comprising a sheet metal cap, having a depending flange provided with a continuous lower portion, an inwardly projecting ledge formed integral with said flange, the upper portion of said flange and said ledge being severed to form a breaking strip, said strip having a rib extending longitudinally thereof, a finger-piece formed integrally with said strip, said

finger-piece being crowned and having its edge separated from the inner edge of the ledge, a sealing disk in said cap engaging said ledge, said sealing disk being crowned to conform to the crown in said finger-piece.

5. A bottle seal comprising a sheet metal cap, having a top portion and a depending flange, said depending flange being corrugated and provided with a continuous lower portion, said top portion being severed concentrically of the cap to form an inwardly projecting ledge and a finger-piece with a narrow neck connecting said finger-piece to said ledge, said finger-piece being crowned to separate the outer edge thereof from the inner edge of said ledge, said ledge and the upper portion of said flange being severed on lines extending outwardly and in line with the said edges of said neck to form a breaking strip, said breaking strip having a rib extending longitudinally thereof, said ledge being severed opposite said breaking strip, a metal sealing disk within said cap having its center portion crowned to conform to the crown in said finger-piece, and a sealing disk or cork within said cap and beneath said metal sealing disk.

6. A bottle seal comprising a sheet metal cap, having a depending flange provided with a continuous lower portion, an inwardly projecting ledge formed integrally with said flange, the upper portion of said flange and said ledge being severed to form a breaking strip, and a finger-piece formed integrally with said strip, said strip being bent longitudinally thereof, subsequently to the severing of the ledge to form the breaking strip whereby said strip is strengthened and the side edges of the same are withdrawn from locking contact with the side edges of the ledge.

In testimony whereof I affix my signature, in presence of two witnesses.

CHARLES C. PARKER.

Witnesses:

PHILIP PETERSON,
CHAS. H. QUIGLEY.