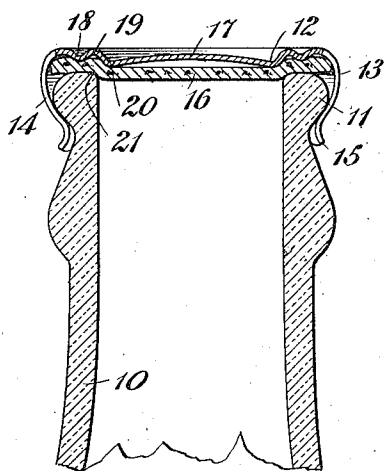


E. A. CLAUS.  
 RECEPTACLE CLOSURE.  
 APPLICATION FILED MAY 20, 1914.

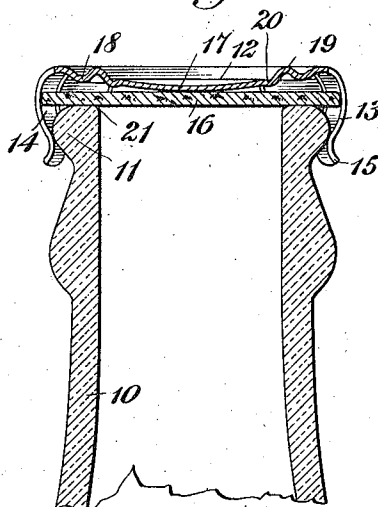
1,155,890.

Patented Oct. 5, 1915.

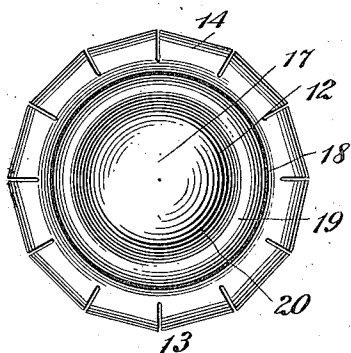
*Fig. 1.*



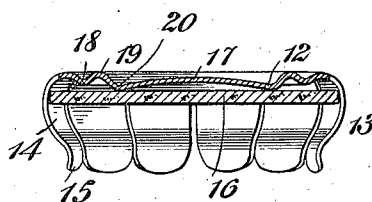
*Fig. 2.*



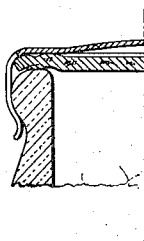
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

EMIL A. CLAUS, OF NEW YORK, N. Y.

## RECEPTACLE-CLOSURE.

1,155,890.

Specification of Letters Patent.

Patented Oct. 5, 1915.

Application filed May 20, 1914. Serial No. 839,784.

*To all whom it may concern:*

Be it known that I, EMIL A. CLAUS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a new and Improved Receptacle-Closure, of which the following is a full, clear, and exact description.

This invention relates to receptacle closures, and has reference more particularly to a so-called bottle cap or stopper sometimes known as a "crown" seal.

More specifically, the invention relates to a bottle cap having a body portion and a depending skirt adapted to engage and grip a shoulder formed in the bottle adjacent to the mouth thereof, to secure the cap in position, the body being provided with a bulge manually or otherwise displaceable from a normal position and through the inherent resiliency of the material of the cap controlling the position of the skirt with respect to the shoulder of the bottle.

The object of the invention is to provide a simple and efficient receptacle closure or bottle cap which can be inexpensively produced, by means of which a receptacle such as a bottle can be securely sealed to preserve the contents thereof, which can be easily placed in position and as easily released or removed without the use of an instrument of any kind whatsoever, which is so constructed that the cap cannot be readily, accidentally or inadvertently opened or released, and by means of which a bottle can be so effectively sealed that even gas under pressure therein cannot easily escape, whereby carbonated or aerated liquids can be properly preserved in the receptacle.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claim.

Reference is had to the accompanying drawings forming part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a vertical longitudinal section of the upper portion of a bottle showing an embodiment of my receptacle closure applied thereto in a locked or sealed position. Fig. 2 is a similar view showing the closure released. Fig. 3 is a plan view of the closure. Fig. 4 is a vertical section of the closure showing the same detached from a bot-

tle, and Fig. 5 is a fragmentary vertical section of a bottle closure indicating a disadvantage which is overcome by means of my invention.

Before proceeding to a more detailed explanation of my invention, it should be understood that I am aware that a bottle closure is old in the art which consists of a body and a depending skirt comprising separate fingers, the body having a normal bulge which is manually or otherwise displaceable and controls the locking or released positions of the fingers. I have found in experimenting with a device of this kind, that there is a tendency when the skirt fingers are in locking positions, for the inner sealing disk of cork or the like to buckle or crumple at the intersections of the fingers, as is shown in Fig. 5. Even if this action is only a slight one, it is nevertheless sufficient to destroy the effective sealing of the device, and this is particularly disadvantageous in cases where the contents of the receptacle are carbonated or otherwise contain gas under pressure, as for example, certain beverages. To overcome this difficulty and furthermore to afford a rocking fulcrum for the fingers in their inward and outward movements, I have provided the body of the device, as will appear more clearly hereinafter, with annular ribs adjacent to the skirt. These ribs also perform other functions which will be described below.

Referring more particularly to the drawings, I have shown, for example, the upper portion of a bottle neck 10 having an external annular projection 11 about the rim thereof which forms a shoulder. The cap or closure is fashioned from tin, spring steel or other suitable material and comprises a body 12 and a downwardly extending skirt 13 consisting of a plurality of separated inwardly curved fingers 14, the extremities of which are outwardly disposed and somewhat rounded. Located within the cap is a disk 16 of cork, rubber or other suitable material for forming a tight joint between the cap and the rim of the bottle mouth. The cap, which is of substantially circular form, has a central bulge 17 which normally is outwardly or upwardly disposed, as is shown in Fig. 1. Adjacent to the skirt and near the edge of the body the material of the cap is inwardly disposed to form an annular bead or rib 18. This rib is so arranged and pro-

portioned that when the cap is in place it is located directly above the rim of the bottle mouth. Inwardly of the rib 18 and concentric therewith is an outwardly disposed rib 19 and within the latter and concentric therewith is a third though inwardly disposed rib or bead 20. The arrangement of these ribs is such that the last mentioned one, when the cap is in position lies within the periphery of the bottle mouth, that is, within the inner edge 21 of the bottle mouth, the rib 19 being disposed approximately directly above the inner edge 21.

It will be seen that the bulge 17 of the cap body is encompassed by the inner rib 20, between which and the edges of the cap, *i. e.*, the skirt, are located the two ribs 18 and 19. The rim of the cap, that is, the junction of the skirt and the body is somewhat rounded and like the outwardly disposed rib 19 projects materially beyond the maximum outwardly projection of the bulge 17. The ribs or beads 18, 19 and 20 are smoothly rounded in cross-section. The rib 18 forms a rocking fulcrum for the inward and outward movement of the gripping fingers of the skirt. It will be understood that in its normal outward position of the bulge 17, the fingers are inwardly pressed against and under the shoulder formed by the projection 11 of the bottle. In order to release the cap the bulge is forced inwardly manually or otherwise into the position shown in Fig. 2. This causes the gripping fingers to spring outwardly or spread so that the cap can be easily released from the bottle neck. The arrangement may be such that the bulge when forced beyond the normal plane of the body of the cap will stay in that position, or the arrangement may be such that the bulge will only stay in that position as long as the pressure thereon is continued and will of its own accord spring back into its normal position shown in Fig. 1.

It will be seen that the two outwardly disposed ribs or beads 18 and 20 serve to grip and compress between them and against the inner edge 21 of the bottle neck,

an annular section of the cork or other sealing disk 16, so that in effect these ribs or beads form from the material of the sealing disk an annular gasket or washer inwardly pressed against the inner edge of the bottle opening and forming a close and effective seal. Furthermore, the rib 18, which of course is continuous, firmly presses the sealing disk against the flat annular surface of the end of the bottle neck, and prevents the cork or other material from buckling or wrinkling at the junctions of the spring gripping fingers, and thus effectively prevents leakage. It will also be noted that as the bulge 17 does not extend upwardly as far as the rib 19 and the edge of the cap, it is protected to a very material extent against accidental release.

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

A receptacle closure consisting of a cap having a depending locking skirt adapted to engage a receptacle, a sealing disk within the cap, said cap having an inwardly directed bulge when not engaging a receptacle, the circumference of said bulge being less than the circumference of the mouth of the receptacle to be engaged by the cap, said cap having an upwardly directed circular rib surrounding the bulging portion and an inwardly directed rib surrounding the outwardly directed rib, said inwardly directed rib constituting a circular fulcrum for the cap when the same is fitted on to a receptacle whereby the skirt is maintained locked to the receptacle and the inwardly directed bulge is reversed into an outwardly directed bulge, whereby the sealing disk is depressed into the mouth of the receptacle by the circumference of the bulge, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMIL A. CLAUS.

Witnesses:

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GEORGE H. EMSLIE.