E. M. POTTER.

RECEPTACLE AND CLOSURE THEREFOR.

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Fig. 1.

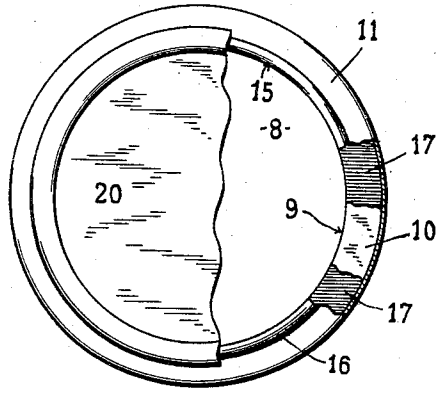


Fig. 2.

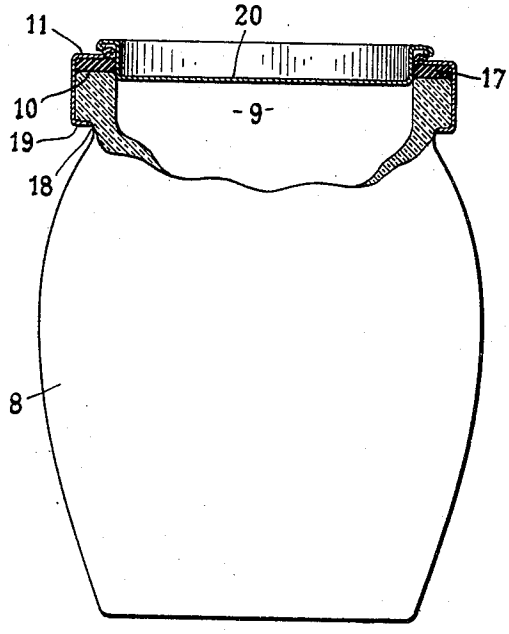
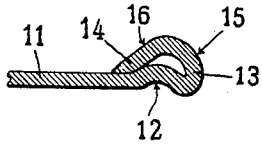


Fig. 3.



WITNESSES

J. Clyde Tingley.

Kate Brennen

INVENTOR

Ellis M. Potter,

BY

W. H. Parker

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ELLIS M. POTTER, OF NEW YORK, N. Y.

RECEPTACLE AND CLOSURE THEREFOR.

1,199,110. Specification of Letters Patent. Patented Sept. 26, 1916.

Application filed January 22, 1915. Serial No. 3,802.

To all whom it may concern:

Be it known that I, ELLIS M. POTTER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Receptacles and Closures Therefor, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

In a co-pending application, Ser. No. 843,624, filed June 8, 1914, which has issued as Patent No. 1,167,519 under date of Jan. 11, 1916, I have illustrated a cap and closure for an earthenware or frangible receptacle, and the invention hereinafter disclosed is an improvement upon said device and, as hereinafter defined, provides a more hygienic and cleanly structure than that defined in my said prior application and patent.

The invention relates to a receptacle and closure therefor and more particularly to a closure for a receptacle embodying certain advantageous features as hereinafter described.

It has been a common practice to employ in the art the so-called spring cap or closure for cans and like receptacles. Ordinarily, in such devices, there is a down-turned or up-turned lip about the opening which presents an unfinished sharp edge and although the user is protected against this sharp edge when the cap is in place, there is no protection for the hands when the cap has been removed. Ordinarily, spring caps have not occupied the full size of the neck of the receptacle. Such devices of the prior art not only have the disadvantage of presenting sharp edges to scar the hands of the user, but owing to their conformation, have been most unhygienic inasmuch as there was no possible way of cleansing them.

It is the object of the present invention to provide a closure which will present a smooth unbroken surface to the interior receptacle and a smooth "unedged" opening at the exterior.

It is a further object to increase the strength and durability of the closure by forming the opening in a well-defined closed ring having suitably tapered peripheral walls to receive a closing cap.

Referring to the drawings: Figure 1, is a plan view of the improved closure and receptacle, the parts being broken away to better illustrate the construction. Fig. 2, is a view in side elevation of the receptacle, the parts being broken away in section. Fig. 3, is an enlarged fragmentary view of the closure.

Referring first to the old forms of devices having the ordinary well-known type of spring-top and, in fact, referring to the illustrations of my prior application referred to, there is an unhygienic condition made possible by the formation of the cap about the orifice for the spring-cap closure. This is due to either turning the metal about the opening of the cap downward to form a flange, or upward.

In the first case, the cap being formed of metal, there is a raw, down-turned edge which presents an unfinished mouth or opening for the vessel. From its very conformation, there is, of necessity, an annular groove or recess about the opening on its under side due to the down-turning of the metal of the cap to receive the spring-cap closure. This offers a space for the collection of materials maintained in the receptacle, and such a device can rarely be thoroughly cleansed.

In the event that the opening for the spring-cap is up-turned about its edge, there is still a raw edge of metal forming the peripheral opening for the spring-cap. About this up-turned edge there is an annular groove which will collect mold and dirt.

The invention herein disclosed is absolutely smooth, tight and clean. There is no opportunity for the lodgment of dirt or foreign substances either within the receptacle or upon the cap without the receptacle. In all such caps, so far as known, the opening through the cap has been much smaller than the neck of the can or receptacle and there-

fore, the entire under side of the cap is subject to corrosion and attack from the contents of the receptacle.

It is to do away with the objections above noted that the present invention is devised.

Referring to Figs. 1 to 3 of the drawings, there is a receptacle 8 having a central opening 9 at its neck or mouth with a substantially flat and comparativly wide rim 10. Co-extensive with the inner and outer walls of the receptacle 8, there is a cap of annular ring form 11 which has its bearing surfaces adjacent to its inner edge slightly upset as at 12 and with its inner peripheral edge rolled back as at 13 and compressed against the body of the cap as at 14. When the cap is thus formed and set down in dies, it presents a central opening having slightly beveled or curved walls 15 and a beveled outer wall 16 which projects over and firmly engages the body of the cap at 14, thus securing a firm bearing on the outer surface of the impressed annular portion 12.

The peripheral edge 13 of the cap is formed to coincide with the inner walls of the receptacle and a gasket 17 is employed below the cap and covering the end of the receptacle and extending to the peripheral edge of the cap.

As illustrated in Fig. 2, the receptacle is formed with an exterior groove 18 to receive and hold the cupped-up portion 19 of the cap.

In practice, the cap is first formed of a size sufficient to pass over the neck of a frangible receptacle and is large enough to accommodate itself to the irregularities in gage. The gage in earthenware particularly is inherently irregular.

In practice, the receptacle is held in a suitable chuck and the cap is placed over the neck with the gasket underlying the cap. Considerable pressure is then brought against the cap through a suitable die and it is forced down until the elasticity of the gasket 17 is practically overcome. The edge of the cap is then molded or spun into the groove 18 at the outer side of the neck. During this operation, the gasket is forced intimately into all of the irregular surfaces of the neck and is also forced into the groove 12. The gasket is thus forced into line with the peripheral edge 13 so that the spring cap 20, when forced into the opening, will abut against the gasket. Thus, there is not only a seal effected between the surface 13 and the spring cap 20 but the additional seal of the gasket. The further advantage resides in the co-extensive opening of the cap and the receptacle, although, whether the receptacle is made larger or smaller than the opening, through the cap, the advantageous feature of a perfectly smooth molded edge is secured about the opening of the closure. It is obvious that this feature has advantages, whether the cap be made with an opening conforming and coinciding with the opening in the receptacle or is applied to very large openings with a comparatively small opening through the closure.

By molding the peripheral edge of the closure as defined, there is no opportunity for collection of dirt or mold either interiorly or exteriorly of the cap and the edge from its very form presents an annular rib which greatly strengthens the cap. Furthermore, the peripheral opening may be formed with great accuracy with suitable dies and due to its conformation, will, when the spring cap is inserted, give a perfect seal for the receptacle.

What I claim as my invention and desire to secure by Letters Patent is:

1. A receptacle having a closure consisting of a metallic cap swaged about the neck of the receptacle and having a central spring-rimmed orifice co-extensive with the opening in the neck of said receptacle, said spring-rimmed portion of the metallic cap turned outward and backward with its edge in close contact with the outer surface of the metallic cap, and a spring cap filling the opening.

2. A receptacle having a closure consisting of a metallic cap swaged about the neck of the receptacle and having a central spring-rimmed orifice co-extensive with the opening in the neck of said receptacle, said spring-rimmed portion of the metallic cap turned outward and backward with its edge in close contact with the outer surface of the metallic cap, a gasket interposed between the metallic cap and receptacle, and a spring cap filling the opening and abutting against the gasket.

3. A receptacle having a closure consisting of a metallic cap swaged about the neck of the receptacle and provided with a spring-rimmed opening, said opening co-extensive with the opening of said receptacle, said spring rim being in the form of a substantially closed bead provided by having a depression in the metal of the cap on its under side adjacent to the opening, and with the metal about the opening turned upward and backward and formed down into close contact with the outer surface of the cap, whereby a smooth, unbroken interior and edge are provided about the cap at its opening and a smooth, unbroken surface is provided at the exterior of the cap about the opening, and a spring cap fitting said opening.

4. A receptacle having a closure consist-

ing of a metallic cap swaged about the neck of the receptacle and provided with a spring-rimmed opening, said opening co-extensive with the opening of said receptacle, said spring rim being in the form of a substantially closed bead having a depression in the metal of the cap on its under side adjacent to the opening, and with the metal about the opening turned upward and backward and formed down into close contact with the outer surface of the cap, whereby a smooth, unbroken interior and edge are provided about the cap at its opening and a smooth, unbroken surface is provided at the exterior of the cap about the opening, a gasket interposed between the cap and receptacle, and a spring cap filling the opening and abutting against the gasket.

ELLIS M. POTTER.

Witnesses:
WM. B. HILL,
KATE BRENNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."