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J. E. SHARP

1,796,728

REPLACEABLE CONTAINER SEAL

Filed Nov. 14, 1929

Fig. 1.

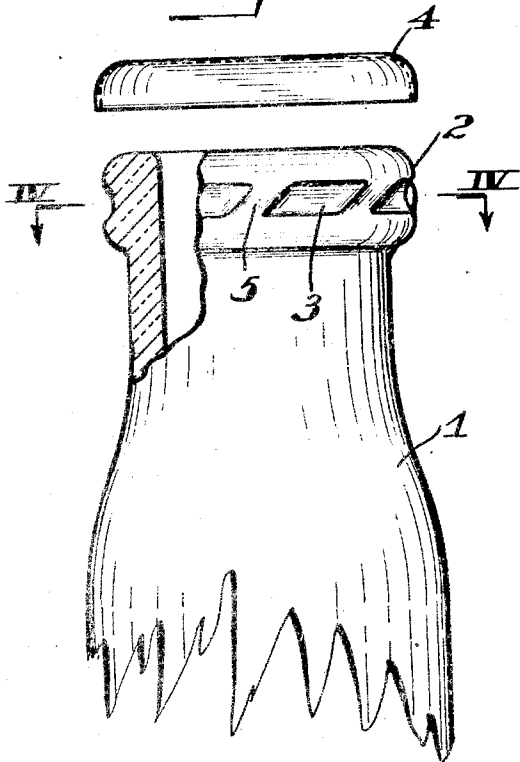


Fig. 2.

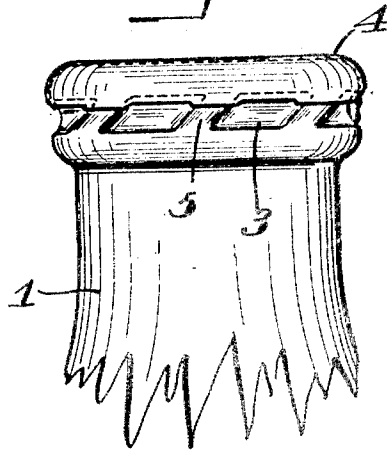


Fig. 3.

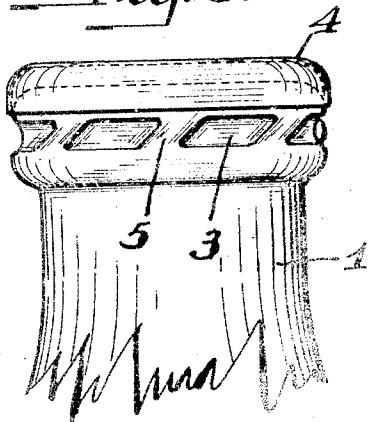
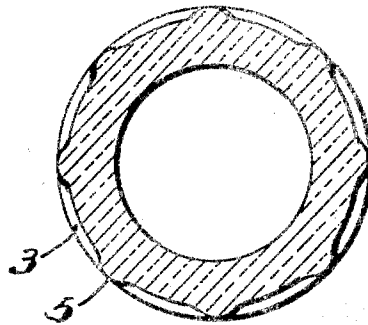


Fig. 4.



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UNITED STATES PATENT OFFICE

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REPLACEABLE CONTAINER SEAL

Application filed November 14, 1929. Serial No. 407,128.

The invention relates to closure caps for containers, and while it is unlimited to containers for any particular purpose, it is especially applicable to caps for milk bottles, and is accordingly so described herein.

The object is to provide a cap for containers, particularly for milk bottles, which can be easily applied and removed; which when applied protects the lip or mouth of the container against contamination, and when removed may be used as a replacement cover or cap for the container; and which by and upon its removal becomes so modified in appearance that it readily shows that the container has been opened after being originally sealed.

The invention is illustrated in the accompanying drawings, of which Fig. 1 is a side view, partially in section, of the upper portion of a milk bottle, a cap being shown above it in position to be applied to it; Fig. 2 a similar view of the bottle with the cap applied to it; Fig. 3 a similar view of the bottle with the cap partially removed from it, and Fig. 4 a sectional view taken on the line IV—IV, Fig. 1.

In the practice of this invention, a bottle or like container has its exterior adjacent to its mouth provided with discontinuous grooves, preferably of curved configurations throughout, and a cap formed of pliable material, preferably thin metal, is applied to the top of the container, the cap being provided with a continuous and uninterrupted skirt which is so molded in position on the mouth of the container as to provide it with detents which engage the grooves of the container. The form and disposition of the grooves on the container are such that when the cap is rotated with relation to the container the detents so formed in its skirt become obliterated to permit the cap to be readily removed.

Preferably the container is provided with a peripheral annular bead above the grooves, the head having its outer edge lying in a cylindrical surface outside of the bottoms of the grooves. This serves the double function of assisting in holding the cap in position when molded on the mouth of the con-

tainer, and of obliterating the detents of the cap skirt when the cap is removed from the container. While the grooves may be of various forms, they are preferably helically disposed below the bead at the mouth of the container so that when the cap is turned to loosen it from removal it simultaneously moves outwardly of the container.

In the illustrative embodiment of the invention, having reference first to Fig. 1, there is shown the upper portion of a milk bottle 1 provided with a peripheral annular bead 2 adjacent to its mouth, and provided below such bead with discontinuous grooves 3, which are helical at their ends by reason of the projections 5 which separate them. As shown in the sectional portion of Fig. 1, these grooves have their bottoms lying within a cylindrical surface defined by the outer edge of the bead.

Above the bottle there is shown a cap 4, preferably of thin pliable metal such as aluminum, in position to be applied to the mouth of the container. The cap may be provided interiorly with a lining of wax paper or with a disc of suitable sealing material. When the cap is placed on the container, lateral inward pressure is applied to its skirt by means of a pneumatic die or an equivalent instrumentality to cause the skirt to conform to the grooves and general configuration of the mouth of the container. In this way the cap is provided with detents which engage the grooves of the container and hold the cap in its applied sealing position with sufficient firmness for its intended purpose, the cap then sealing the top of the container and protecting its mouth against contamination.

To remove the cap, it is only necessary to rotate it on the bottle, the cap being formed of sufficiently pliable metal or other material to permit of such rotation without exerting undue effort. By such rotation of the cap upon the bottle shown herein, helical grooves 3 engaged by the detents of the cap cause the cap to move outwardly of the bottle. Further rotation, or outward movement of the cap, so obliterates the detents previously formed in its skirt that the skirt

is substantially of the same form as it was before being applied to the bottle. The cap may then be used as a replacement seal or cover for the bottle to close its top and protect its mouth against contamination, but because of the plainness of its skirt it shows that the bottle has been opened after being originally sealed.

According to the provisions of the patent statutes, I have explained the principle and operation of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim as my invention:

1. In combination with a bottle or like container having the exterior of its mouth provided with discontinuous grooves of curved configurations throughout, of a cap formed of pliable material applied to the top of said container and provided with a continuous and uninterrupted skirt molded in position on the mouth of said container to engage said grooves thereof by detents so formed in said skirt, whereby said cap may be loosened for removal and the detents of its skirt simultaneously obliterated by turning the cap angularly upon the container.

2. The combination with a bottle or like container provided with a peripheral annular bead adjoining its mouth and with grooves below such bead and within a cylindrical surface defined by the outer edge of the bead, of a closure cap formed of pliable material applied to the mouth of the container and having a continuous and uninterrupted skirt molded in position on the mouth of the container to engage said grooves thereof by detents so formed in said skirt, whereby said cap may be loosened for removal and the detents of its skirt simultaneously obliterated by turning the cap angularly upon the container.

3. The combination with a bottle or like container provided with a peripheral annular bead adjoining its mouth and with helically disposed grooves below such bead and within a cylindrical surface defined by the outer edge of the bead, of a closure cap of thin pliable metal applied to the mouth of the container and having a continuous and uninterrupted skirt molded in position on the mouth of said container to engage said grooves thereof by detents so formed in the skirt, whereby rotation of the cap upon the container simultaneously obliterates said detents of said skirt and causes the cap to move outwardly of the container.

In testimony whereof, I sign my name.

JOHN E. SHARP.