June 6, 1939. T. SCHRÖDER-NIELSEN 2,161,097

CLOSURE FOR BOTTLES AND THE LIKE

Filed Oct. 20, 1936

Fig. 1

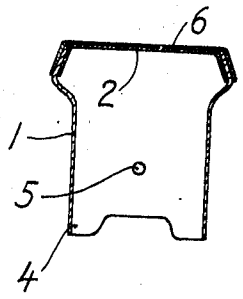
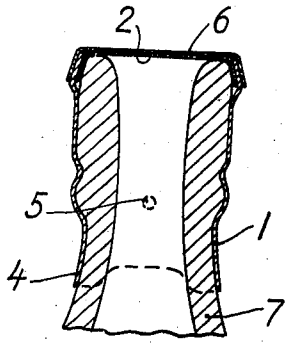


Fig. 2



Inventor
Thorolf Schröder-Nielsen
By Watson, Cole, Grosvenor & Grindle
Attorneys.

Patented June 6, 1939 2,161,097

UNITED STATES PATENT OFFICE

2,161,097

CLOSURE FOR BOTTLES AND THE LIKE

Thorolf Schröder-Nielsen, Horten, Norway

Application October 20, 1936, Serial No. 106,622
In Norway December 14, 1935

3 Claims. (Cl. 215—41)

The invention relates to closures for bottles, jars and the like and comprises a sleeve or skirt of elastic material closed at one end and embracing and spanning inwardly against the neck of the bottle or jar.

The object of the invention is to provide a closure device of the said kind of simple form and inexpensive in manufacture and suitable for bottles of various shapes and for various contents especially in households, the design of the closure having for its aim to obtain adaptability of the closure for bottles of different forms and sizes, easy handling and removal of air from the bottle at the application of the closure as well as a tightly sealing and reliable holding of the closure on the bottle even at a slight pressure of the elastic portion or skirt against the bottle, which latter is of importance in view of the fact that a moderate and even strain on the elastic skirt is to the advantage of its durability. A further object of the invention is to provide means for eliminating the inconveniences in connection with fermentation and thereby the involved increase of the pressure in the bottle.

Figure 1 is a schematic vertical section of a bottle closure in accordance with the present invention; and

Figure 2 is a schematic section of the device of Figure 1 applied to a bottle.

In order to facilitate an understanding of the invention, reference is made to the embodiment thereof shown in the accompanying drawing and detailed descriptive language is employed. It will nevertheless be understood that no limitation of the invention is thereby intended and that various changes and alterations are contemplated such as would ordinarily occur to one skilled in the art to which the invention relates.

Referring to the drawing, the bottle closure according to the present invention comprises an elastic skirt portion 1 consisting of a short length of cylindrical rubber tubing having a wall of uniform thickness. The upper end of the elastic member 1 is closed by means of a pair of metal caps 2 and 6, the upper edge of the member 1 being clamped between the downwardly extending frusto-conical rims of the respective metal caps. It will be noted that the cap member 2 is of a diameter somewhat greater than the normal diameter of the elastic member 1 while the diameter of the cap member 6 is sufficiently greater than that of the cap member 2 to permit the upper edge of the member 1 to be gripped between the downwardly extending rims as described above. The caps 2 and 6 are preferably made of non-corrosive metal, for example aluminum.

The lower edge of the elastic member 1 is preferably provided with downwardly extending flaps 4, and is also preferably provided with one or more vents or apertures 5 located some distance above the lower edge of the member 1, in order to allow escape of air and gases if an excessive pressure develops within the bottle. If desired, an adhesive may be employed between the upper edge of the elastic member 1 and one of the metal caps 2, 6.

Figure 2 illustrates a closure such as that of Figure 1, in place on the neck of a bottle 7. It will be obvious that if an upward pull is exerted upon the metal cap 6, the first result will be an upward extension of the elastic member 1 which will serve to create a vacuum within the bottle, thus resisting removal of the closure. The higher the level of the liquid within the bottle, the greater will be the vacuum created by the initial upward movement of the cap 6.

What I claim is:

1. A closure for bottles comprising an elastic member adapted to embrace the neck of a bottle, said elastic member consisting of a short length of cylindrical rubber tubing having a wall of uniform thickness, a rigid cap member adapted to close the upper end of said elastic member and provided with a downwardly extending peripheral flange, and a second rigid cap member concentric with said first cap member and having a downwardly extending peripheral flange, the upper edge of said elastic member being gripped between said flanges, said first cap member being adapted to embrace the head of a bottle with clearance between the same and the said flange on said cap member.

2. A closure for bottles comprising an elastic member adapted to embrace the neck of a bottle, said elastic member consisting of a short length of cylindrical rubber tubing having a wall of uniform thickness, said elastic member having its lower edge formed with integral downwardly extending flaps, a rigid cap member adapted to close the upper end of said elastic member and provided with a downwardly extending peripheral flange, and a second rigid cap member concentric with said first cap member and having a downwardly extending peripheral flange, the upper edge of said elastic member being gripped between said flanges, said first cap member being adapted to embrace the head of a bottle with clearance between the same and the said flange on said cap member.

3. A closure for bottles comprising an elastic member adapted to embrace the neck of a bottle, said elastic member consisting of a short length of cylindrical rubber tubing having a wall of uniform thickness, a rigid cap member adapted to close the upper end of said elastic member and provided with a downwardly extending peripheral flange, and a second rigid cap member concentric with said first cap member and having a downwardly extending peripheral flange, the upper edge of said elastic member being gripped between said flanges, said first cap member being adapted to embrace the head of a bottle with clearance between the same and the said flange on said cap member, said elastic member having one or more apertures located substantially below the lower edges of said cap members.

THOROLF SCHRÖDER-NIELSEN.