

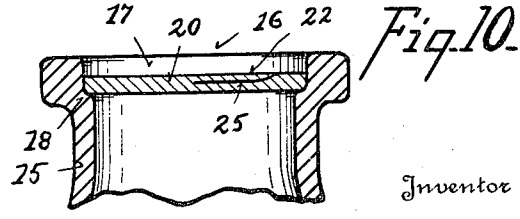
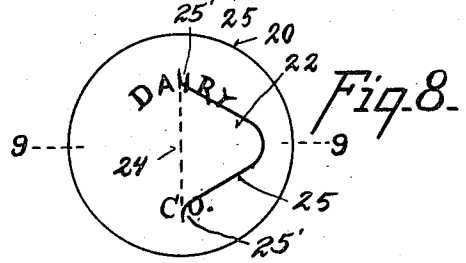
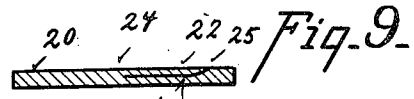
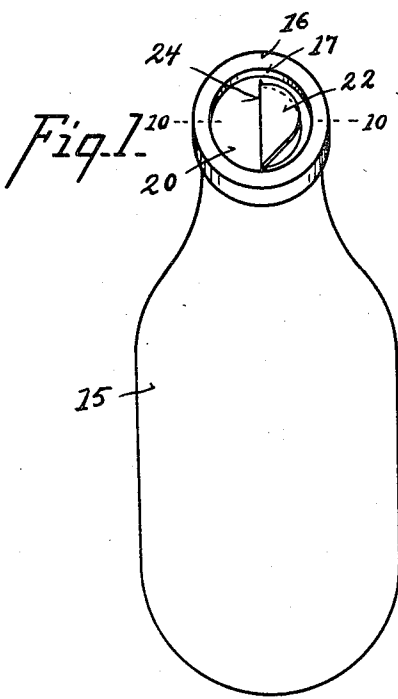
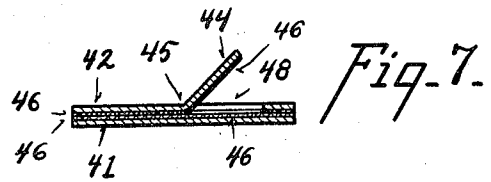
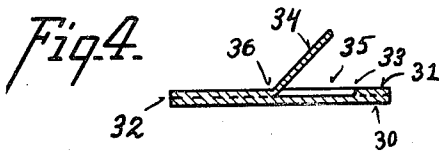
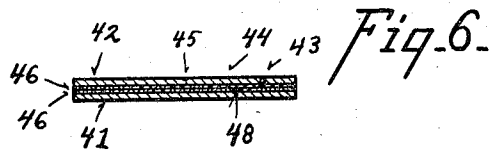
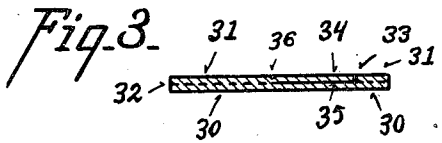
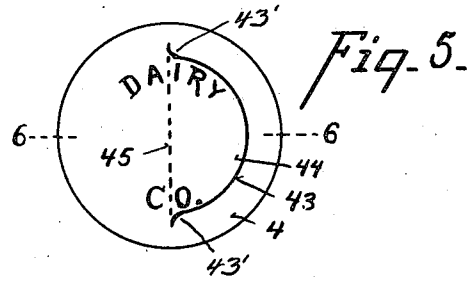
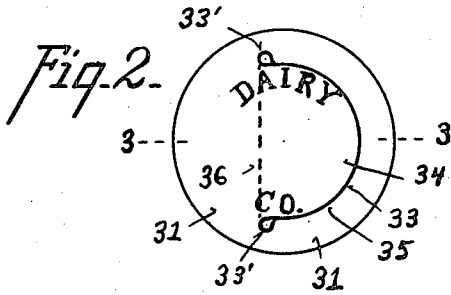
July 31, 1923.

1,463,198

V. E. DANCE

BOTTLE STOPPER

Filed Sept. 1, 1921



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UNITED STATES PATENT OFFICE.

VICTORIA E. DANCE, OF HAMILTON, OHIO.

BOTTLE STOPPER.

Application filed September 1, 1921. Serial No. 497,688.

To all whom it may concern:

Be it known that I, VICTORIA E. DANCE, a citizen of the United States, residing at Hamilton, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Bottle Stoppers, of which the following is a specification.

My invention relates to improvements in bottle stoppers. One of its objects is to provide a bottle stopper, adapted to be used with milk bottles for instance, and in which the stopper is provided with a tongue to be grasped and pulled upon to remove the stopper, and which tongue when not in use lies flush with one face of the stopper. Another object is to provide a bottle stopper having a tongue to be grasped to remove the stopper, and which tongue does not project or in any manner interfere with the capping machine or operation or printing of trade-marks or advertising matter upon the bottle stopper. Another object is to provide an improved paper fiber bottle stopper having a tongue housed in a recess in one face of the stopper when not in use. Another object is to provide an improved reinforced paper fiber bottle stopper having a tongue housed when not in use in a recess in one face of the stopper. My invention also comprises certain details of form, combination, and arrangement, all of which will be fully set forth in the description of the accompanying drawings in which:

Fig. 1, is a perspective view of a milk bottle and stopper embodying my invention.

Fig. 2, is a plan view of the stopper detached.

Fig. 3, is a sectional detail taken on line 3—3 of Fig. 2 with the tongue in place flush with the upper face of the stopper.

Fig. 4, is a view similar to Fig. 3, with the tongue raised to operative position.

Fig. 5, is a view similar to Fig. 2, illustrating a modification.

Fig. 6, is a view similar to Fig. 3, taken on line 6—6 of Fig. 5.

Fig. 7, is a view similar to Fig. 6, with the tongue raised to operative position.

Fig. 8, is a view similar to Fig. 2, illustrating another modification.

Fig. 9, is a view similar to Fig. 3, taken on line 9—9 of Fig. 8.

Fig. 10 is a sectional detail taken on line 10—10 of Fig. 1.

The accompanying drawings illustrate the

preferred embodiments of my invention, in which 15 represents a milk bottle or similar container the entrance 16 to which it is desired to close with a permanent or semi-permanent stopper. The entrance to the container is provided with an annular or cylindrical wall 17 terminating in an annular shoulder 18. The stopper is preferably of paper fiber, as for instance a single sheet of card board or built up from a plurality of sheets of cardboard united together. The stoppers are preferably stamped of the same outline as the wall 17 of the container and so as to make a tight fit with the wall 17 and to rest upon the shoulder 18 when forced into the entrance of the container.

It is desirable to have the trade-mark and other advertising matter of the party issuing the containers printed upon the stoppers and it is desirable also to have a tongue carried by the stopper adapted to be grasped by the fingers in order to lift or remove the stopper from the entrance to the container. In order to provide such stoppers having a tongue by means of which the stopper may be conveniently removed and in which the tongue does not interfere with the application of printing to the upper or outer face of the stopper to which the tongue is also attached, or interfere with the present method and apparatus for bottle capping, I provide, Figs. 8, 9, and 10, a tongue 22 which has a hinge joint or flexible connection at 24 attaching the tongue of the stopper. The tongue is seated in a recess 25 formed in the upper or outer face of the stopper so that the upper or outer face of the tongue when not in use lies in the same plane with and forms part of the upper or outer face of the stopper to receive the printed matter and said tongue is only lifted or projected from the face of the stopper when employed to lift the stopper from the entrance to the container. By exerting a pull on the tongue at an angle to the face of the stopper the stopper is more readily started and ultimately removed from the entrance to the container. In the modification Figs. 8 and 9 the stopper 20 is composed of an imperforate disk cut from a single rather thick sheet of cardboard or other flexible material adapted to serve the purpose of a stopper. The tongue 22 is seated in a recess 25 which in this modification is formed by introducing a knife or severing tool and partially severing the tongue from the body

of the stopper, thereby at the same time forming the recess to receive the tongue, while the tongue retains a hinge connection with the body of the stopper indicated by the dotted line 24 in Fig. 8.

In the modification Figs. 2, 3, and 4 the stopper is produced by uniting two relatively thin sections of cardboard 30 and 31 to form the body of the stopper along the dotted line 32. The section 30 is imperforate, while the section 31 is cut entirely through along a line 33 to partially separate a tongue 34 from the section 31. When the two sections 30 and 31 are united the tongue 34 lies in a recess 35 formed in the body of the stopper with its upper face flush with the upper face of the stopper as indicated in Figs. 2 and 3 until required to lift the stopper out of the entrance to the container when the tongue 34 is lifted turning upon its hinge connection 36 to substantially the position shown in Fig. 4. In order to prevent any tendency for the stopper to tear at the root of the tongue I preferably terminate the cut 33 in small smooth walled perforations 33'.

In the modification Figs. 5, 6, and 7 the stopper is reinforced to more effectually prevent the tongue 44 being torn loose at its root or hinge portion 45 from the body of the stopper. One or both of the relatively thin sections of cardboard or similar material 41 and 42 are reinforced by facing them with a cloth ribbon or thread of textile material or other material 46 difficult to be torn or severed, and which so strengthens the tongue and its connection to the body of the stopper as to make it practically impossible to tear the tongue loose from the stopper. The tongue 44 is partially severed from the section 42 by a line 43 cut entirely through the section 42 and preferably through one section 46 before the sections 41 and 42 are united. The section 41 is imperforate, and the sections 41 and 42 are united together along the line between the adjacent faces of members 46 with the tongue 44 housed in a recess 48 with the outer face of the tongue flush with the outer face of the stopper. In the modification Fig. 5, I have terminated the cut 43 in outwardly curved ends 43' to prevent any tendency for the stopper to tear at the root of the tongue. In Fig. 8, I have shown similarly outwardly curved ends 25' at the base of the tongue 22.

The printing may be applied before the stopper sections are stamped or may be applied afterwards. The stoppers may be coated with paraffin wax or similar substance to render them substantially water

proof. The tongue does not interfere in any manner with the bottle capping mechanism or methods at present employed.

The articles herein shown and described are capable of considerable modification without departing from the spirit of my invention.

What I claim is:

1. A disk shaped imperforate bottle stopper having a tongue to project from one face thereof and to serve as a handle to remove the stopper, said tongue being wider at its base than at its free end and being normally seated in a recess in the face of the stopper with its outer face flush with one face of the stopper and adapted to be lifted out of said recess and grasped to remove the stopper from the bottle, the slit separating said tongue from the stopper being outwardly turned at the base of the tongue to substantially right angles to the axis of the tongue to cause the root of the tongue to be its point of maximum strength.

2. A disk shaped imperforate bottle stopper having a tongue to project from one face thereof and to serve as a handle to remove the stopper, said tongue being wider at its base than at its free end and being normally seated in a recess in the face of the stopper with its outer face flush with one face of the stopper and adapted to be lifted out of said recess and grasped to remove the stopper from the bottle, the slit separating said tongue from the stopper being outwardly curved at the base of the tongue to substantially right angles to the axis of the tongue to cause the root of the tongue to be its point of maximum width and strength.

3. A disk shaped imperforated bottle stopper having a tongue to project from one face thereof and to serve as a handle to remove the stopper, said tongue being wider at its base than at its free end and being normally seated in a recess in the face of the stopper with its outer face flush with one face of the stopper and adapted to be lifted out of said recess and grasped to remove the stopper from the bottle, the slit separating said tongue from the stopper being outwardly curved at opposite ends at opposite sides of the base of the tongue and terminating in smooth walled recesses at opposite ends of the base of the tongue to cause the root of the tongue to be its point of maximum width and strength and to prevent tearing of the stopper at the base of the tongue.

In testimony whereof I have affixed my signature.

VICTORIA E. DANCE.