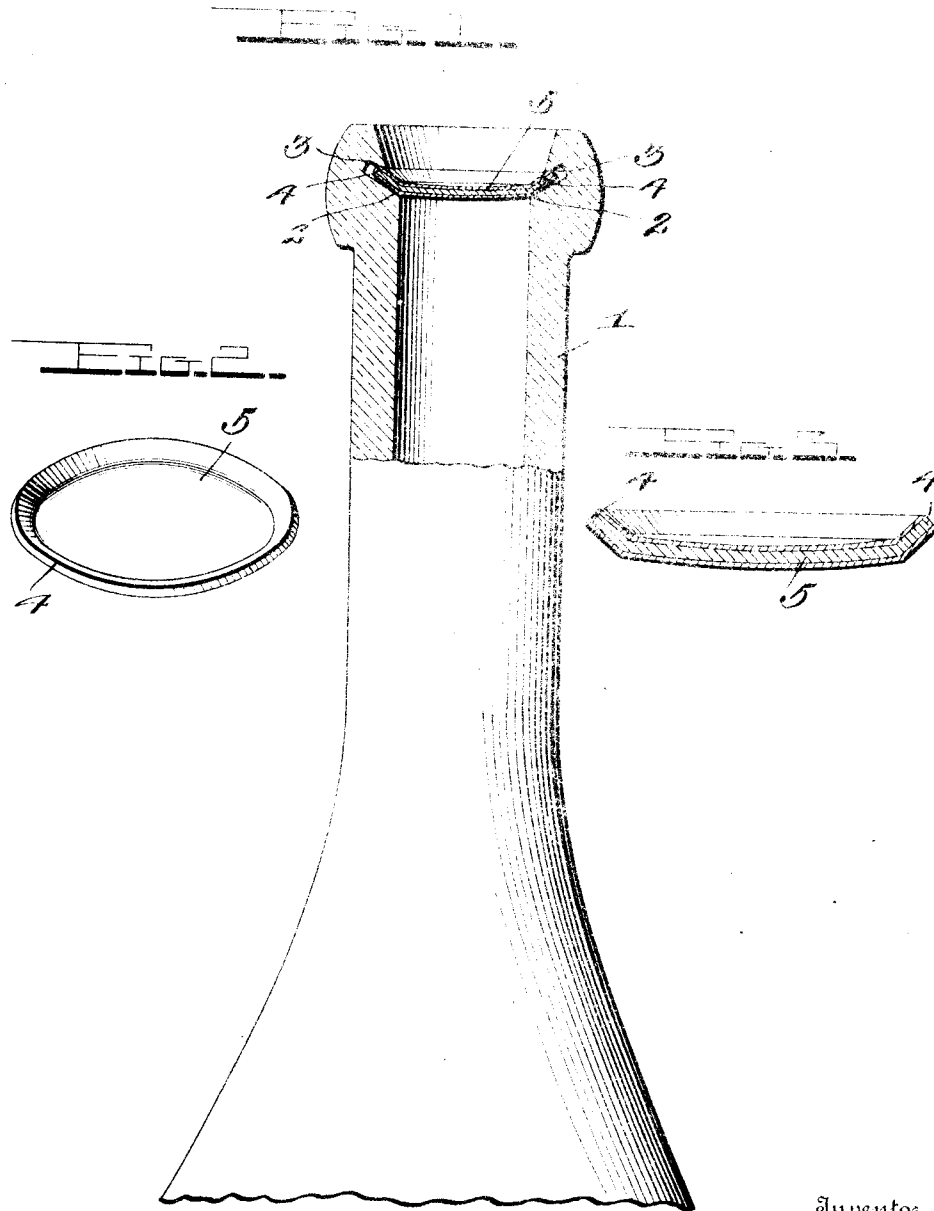


W. G. GADUE.
BOTTLE STOPPERS.
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Patented Sept. 24, 1912.



Inventor

W. G. Gadue,

Witnesses

Chas. L. Griesbauer

G. B. Norton.

By

Watson E. Coleman.

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM G. GADUE, OF BURLINGTON, VERMONT.

BOTTLE-STOPPER.

1,039,268.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM G. GADUE, a citizen of the United States, residing at Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to bottle stoppers and more particularly to an improved type of stopper for bottles containing effervescent liquids.

The main object of this invention is to provide a stopper means for bottles intended for beers, ciders, etc., which can be placed in position without the necessity of using powerful and expensive material for the purpose.

Another object of this invention is to have the stopper arranged so that it can be manufactured at a minimum cost, and so that it can be placed in position quickly and without difficulty, by hand.

Other objects of this invention will become apparent as it is more fully set forth.

The ordinary stopper for beer bottles and the like has to be placed in position by means of powerful and expensive machinery, which very often breaks the bottle and spoils the liquid therein. An operator is usually required to take care of this machinery, which adds to the cost of stoppering the bottles. This invention avoids the use of such machinery, and eliminates the necessity of such an operator.

The stopper consists of a round piece of card-board rendered impervious to moisture by a coating of paraffin. This is slipped into the neck of the bottle for which it is intended and catches in the groove provided therein, as the pressure of gases within the bottle act upon it.

In the accompanying drawings which illustrate by way of example an embodiment of this invention, Figure 1 represents a sectional view through the neck of the bottle embodying this invention, and provided with a stopper of the kind referred to. Fig. 2 is a detail of a stopper embodying this invention, and Fig. 3 is a sectional view through the stopper.

Similar reference characters refer to similar parts throughout the drawings.

Referring to the drawing, the numeral 1 designates the neck of the bottle which is

formed on its interior below its mouth edge with a circular recess 3, the walls of which project radially from the interior wall of the bottle outwardly in an upwardly inclined direction, the upper and lower walls of the recess being substantially parallel to each other and the upper wall being shorter than the lower wall, whereby the latter will project inwardly to a greater extent than the upper wall and produce an upwardly facing ledge 2.

The stopper which is designed for use in the bottle, is preferably constructed of some pliable substance such as cardboard, which is stamped out to form the structure illustrated in detail in Figs. 2 and 3, the same including a dished body portion with its convex side facing downwardly and a rim portion 4 which extends entirely around the dished body portion of the stopper and projects upwardly and outwardly therefrom at a well defined angle thereto. Ordinarily this form will be given to the stamped out piece of card-board by an ordinary stamp, so that no special tools are usually needed for this purpose of giving the stopper the form in question. After the stopper has been cut out, it is suitably treated so as render it impervious to moisture. This is preferably done by coating the same with paraffin. The stopper is then placed in the bottle by dropping it into the neck thereof, with the convex side downwardly disposed. This can be readily done by the hand. The pressure of the gases within the bottles tends to press upwardly on the convex stopper and to turn it inside out, as it were. This action increases the diameter of the stopper slightly and causes the same to extend into the V-shaped slot 3, and more securely close the opening in the bottle. The provision of the paraffin on the edges of the stopper tends to make a better fitting for the stopper as well as rendering the same impervious to the liquid within the bottle.

The bottle is opened by inserting a knife or sharp pointed instrument into the neck of the bottle and piercing through the stopper. It can be then readily removed. Thus it can be seen that the arrangement while being very simple, has many advantages which the ordinary type of stopper does not anticipate. The stopper is cheap, can be quickly and cheaply installed, and can be quickly taken out of the bottle when it is desired to open the same, and it tends

to close the bottle more securely as the pressure within the same increases.

It is to be noted that the recess 3 has its upper wall terminating outside of the plane of the inner edge of the lower wall and that the interior wall of the mouth of the bottle from the recess 3 upwardly, is outwardly beveled in all directions leading to the recess. The dished body portion of the stopper 5 is of a diameter equal to the main interior wall of the bottle neck, where it merges into the lower wall or ledge 2 of the recess 3 and that the diameter of the entire stopper, including its angularly disposed and upwardly and outwardly inclined rim 4, is initially or normally slightly less than the extreme diameter of the recess. Thus, the stopper may be easily inserted in place when it is thrust into the beveled mouth of the bottle and will seat itself on the ledge 2 with the rim 4 sprung into the recess 3. The action of seating the stopper is facilitated, owing to the fact that the upper wall of the recess 3 is at its inner circumference of greater diameter than the inner circumference of the lower wall, while at the same time, this disposition or formation of said walls in connection with the rim 4 of the stopper 5 in no wise detracts from the security of the stopper, owing to the fact that when the pressure within the bottle acts upon the convexed lower face of the body portion of the stopper 5, the rim 4 will tend to move upwardly in the recess and will be forced by the upper wall of the recess to spread out to some extent so as to effectu-

ally resist any tendency toward dislodgment.

Having thus described this invention, what is claimed is:—

A bottle provided in its neck and near the rim edge thereof with a circular recess, the walls of which project outwardly in an upwardly inclined direction, the inner circumference of the upper wall being of greater diameter than the inner circumference of the lower wall and the interior wall of the bottle neck being beveled outwardly in all directions from the upper wall of the recess to the rim edge of the bottle, and a stopper of pliable material embodying a dished body portion with its convexed side facing downwardly and a rim extending around the body portion and angularly disposed in relation thereto and projecting upwardly and outwardly therefrom, the normal diameter of the body portion being equal to the diameter of the interior circumference of the bottom wall of the recess and the normal diameter of the entire stopper including its rim being normally less than the extreme diameter of the recess, the body portion of the stopper fitting on the ledge formed by the bottom wall of the recess and the rim of the stopper engaging the upper wall of the recess, as and for the purpose set forth.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLIAM G. GADUE.

Witnesses:

HELEN M. POST,
MAUDE T. DODGE.