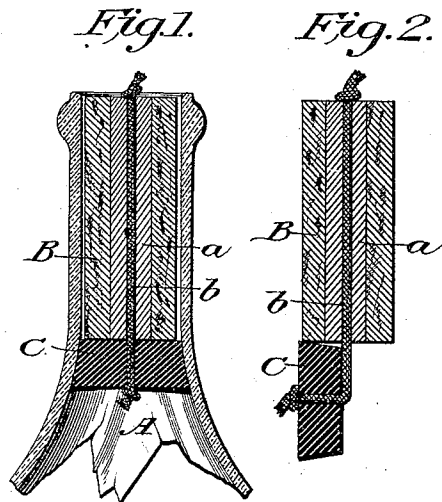


(No Model.)

G. V. BONKER.
INTERNAL BOTTLE STOPPER.

No. 465,915.

Patented Dec. 29, 1891.



Witnesses:
A. M. Hodges.
D. J. Norton.

Inventor:
George V. Bonker.

UNITED STATES PATENT OFFICE.

GEORGE V. BONKER, OF BOSTON, MASSACHUSETTS.

INTERNAL BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 465,915, dated December 29, 1891.

Application filed April 14, 1891. Serial No. 388,931. (No model.)

To all whom it may concern:

Be it known that I, GEORGE V. BONKER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Internal Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to produce an internal bottle-stopper for beer, pop, tonics, &c., that will absolutely prevent any escape of gas under the highest pressure, that will be automatic in its action solely by means of the liquid and gas while the bottle is being filled, and that when the bottle is being emptied will rise away from the neck and not obstruct the flow of the liquid. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the stopper in place in the neck of the bottle. Fig. 2 is a vertical sectional view of the stopper preparatory to its being introduced into the bottle.

Similar letters refer to similar parts throughout the several views.

A is the neck of the bottle.

The cork or bouyant stopper-body B, with the rubber or elastic disk C, constitute the stopper.

a is a hollow rigid core of cedar or other light material.

b is an elastic cord.

c, Fig. 4, is where the body B and disk C are cemented together.

d, Fig. 4, is a solid rigid core of cedar or other light material.

e, Fig. 3, is a non-elastic cord.

In constructing the stopper the bouyant part or stopper-body B should be made of cork or other light substance, cylindrical in form and of proper diameter to pass readily through the neck of the bottle, and of sufficient length to cause it to float promptly in the liquid as the bottle is being filled. The elastic part or disk C should be made of rubber or other elastic substance, such as ground cork mixed with rubber, and should be of

sufficient diameter to insure it from being forced farther up the neck of the bottle than is required, and of such a thickness that it can not double upon itself, but will remain firm as it is forced into position. It should either be made of material heavier than the liquid—as rubber—or weighted, so as to cause the stopper to assume an upright position, with the B end upward as the bottle is being filled. The rigid core a, extending through body B to disk C, should be made of cedar or other light firm material, thus making the body-section more rigid, so that the stopper may be more easily pushed down when the bottle is opened. Said core may be made either hollow or solid, as the case may require. The elastic cord b is attached to disk C and extends through the core and is secured at the top of the body-section.

The action of the stopper is as follows: Body B is first introduced into the neck of the bottle. Disk C is then turned so that its flat side is parallel with the length of body B, as shown in Fig. 2, the elastic cord b permitting it to be so turned, and it is then easily forced through the neck into the bottle, carrying body B with it. As soon as the stopper passes into the bottle the elastic cord b returns the disk C to its former position. By this means disk C can be made sufficiently large to prevent any possibility of its being blown out of the bottle by any force of gas, and at the same time be easily passed through the neck by the thumb and fore finger.

After introducing the stopper and turning on the liquid under pressure it will float upward in an upright position until it passes into the neck of the bottle. The filler being then removed the pressure within forces the stopper into place and prevents any farther escape of the gases. When it is desired to empty the bottle, the stopper is pushed down, allowing the gas to escape, and when the liquid is poured out the bouyancy of the stopper causes it to rise away from the neck, thus permitting the liquid to flow without obstruction.

Having fully described my invention, what I desire to claim, and secure by Letters Patent, is—

1. A stopper-body B, a disk C at the base

thereof, and an elastic cord connecting the body and disk, as set forth.

2. A stopper-body B, a disk C, attached to the base of said stopper-body, a rigid core
5 extending through the body to the disk, and an elastic cord connecting the disk and body-section of the stopper, as set forth.

3. A stopper-body B, a disk C, a hollow rigid core extending through the body to the

disk, and an elastic cord attached to the disk to extending through the hollow core and secured at the top of the body-section, thereby attaching the disk and body-section together, as set forth.

GEORGE V. BONKER.

Witnesses:

A. M. HODGES,
D. G. NORTON.