(No Model.)

A. L. CLARK.

BOTTLE.

No. 569,615. Patented Oct. 20, 1896.

Fig. 1.

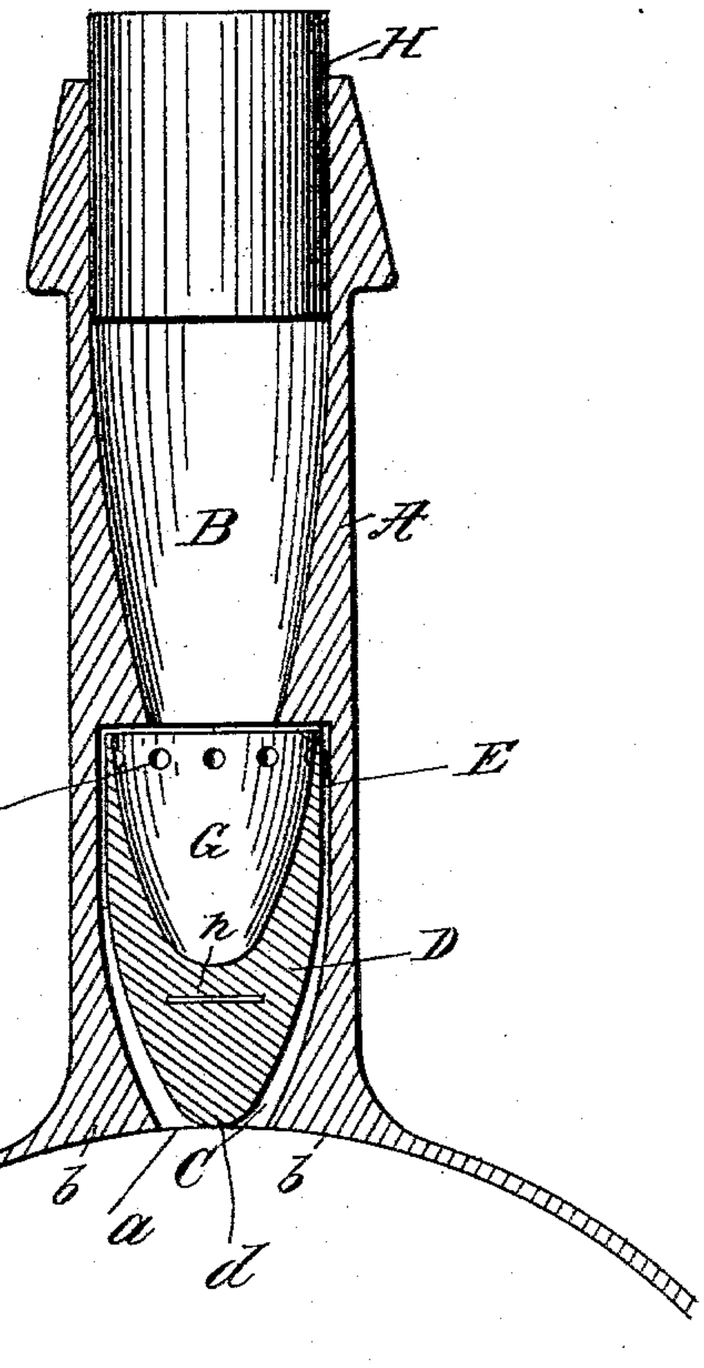


Fig. 7.

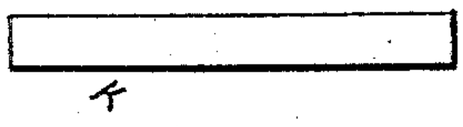


Fig. 6.

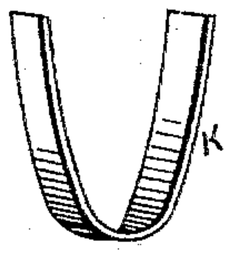


Fig. 3.

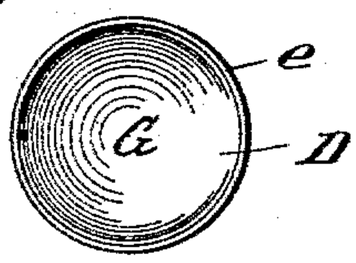


Fig. 5.

Fig. 4.

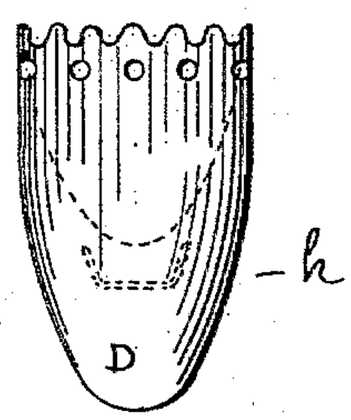
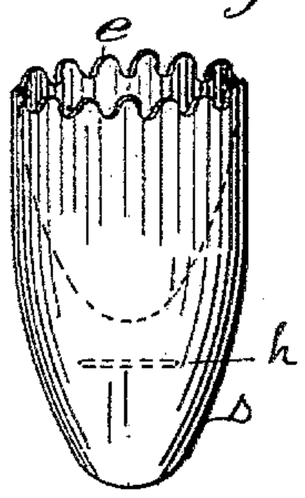


Fig. 2.



Attest.

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UNITED STATES PATENT OFFICE.

ALFRED L. CLARK, OF DUBUQUE, IOWA.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 569,615, dated October 20, 1896.

Application filed February 10, 1896. Serial No. 578,663. (No model.)

To all whom it may concern:

Be it known that I, ALFRED L. CLARK, a citizen of the United States, residing at Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the use of bottles in which specifics are bottled, each manufactured by a single house only, or special brands of wines, liquors, and the like, it frequently occurs that when the contents has been sold the retailer will refill the bottle with an inferior grade or quality and sell it as the genuine, and to protect the manufacturers, and more especially the consumer, is one of the leading objects of my invention.

It consists, essentially, in forming the upper portion of the neck of the bottle in the inside into a cone shape and the lower end of the neck into funnel shape, then forcing through the cone portion a compressible and elastic valve which expands and fills the neck below the cone part and which is adapted to fit into the funnel at the bottom of the neck.

In order to clearly understand the manner of construction and mode of operation, I will proceed to describe the same.

In the drawings forming a part hereof, Figure 1 shows a side elevation of one-half of the bottle, sectioned perpendicularly. Fig. 2 shows a side elevation of the valve; Fig. 3, a top view of Fig. 2; Fig. 4, one form of the valve with protector; Fig. 5, an additional protector for the valve. Fig. 6 is a modified form of a protector for a valve, and Fig. 7 is a plan view of Fig. 6 flattened out.

Like letters denote corresponding parts in all of the drawings.

Referring to the drawings, A represents the neck of my improved bottle, which is formed into a cone shape B on the inside near the top. This inner surface of the cone B may be plain or fluted and operate equally well; but I prefer it plain. The base of the neck is thickened at *b* and formed into a funnel or cup C, with an open bottom at *a*, and adapted to receive a valve, presently to be described. The valve D is formed of rubber or any material capable of being compressed and which will expand to its original size after the pressure is removed. The valve D is pointed at its lower end *d* to just fit the funnel or cup C. The upper end E of the valve may be rounded, as shown in Fig. 1, or may be cut in scallops *e*, as shown in Fig. 2. It may also be perforated near the top at *g g*, as shown in Fig. 1. The valve D is hollowed out at G in cup shape, having its upper edge quite thin for the reason presently to appear.

Embedded in the base of the valve is a metal plate *h*, which may be a thin flat piece of metal, as shown in Figs. 1 and 2, or it may be of a cup shape, as shown in Fig. 4, or it may be a rectangular shape, as shown in Figs. 6 and 7. If the latter, then I prefer to use two of said pieces in the manner and for the purpose to appear hereinafter.

The usual cork H is inserted in the mouth of the bottle.

An advantageous mode of using my bottle may be in substantially the following manner: Before the valve D is inserted in the neck the bottle is filled. Then the valve D, being flexible and compressible, is forced down through the cone B, and as soon as it is freed from the cone it will drop into the funnel C and expand till it comes in contact with the neck of the bottle. When the contents of the bottle is to be discharged, the cork H is removed and the bottle tipped to an angle, and the valve will fall out of the funnel C and against the under side of the cone B, and the liquid will run out around the valve or through the scallops *e*, if the valve in Figs. 2 and 4 is used, or through the holes *g*, if the valve shown in Figs. 1 and 4 is used, or the pressure of the fluid upon the sides of the valve will force them in, and the fluid will escape into the cone part and out.

It will be readily seen that if the fluid is introduced into the neck it cannot enter the body of the bottle on account of the valve, and the valve will the more readily drop into the funnel C from the fact that the liquid would first fill the hollowed part B of the valve and force the valve to position. It would also be very difficult to cut a hole in the rubber valve on account of the metal plate *h* therein, and especially when the metal is in the form of a cup, as shown in Fig. 4.

It will further be seen that the valve cannot well be displaced by anything like a wire inserted in the neck of the bottle, as the edge of the valve will be under the cone and in a position difficult of access.

If it is desired to further protect the valve from injury or removal, one or more of the rectangular strips K may be inserted in the neck of the bottle by doubling their ends together and forcing them into the neck, and as soon as they have passed the cone will expand and strike against the sides of the valve and hold out the upper edges of the valve against the sides of the neck, where it will be difficult to reach by wire or otherwise, and if two strips are inserted crosswise of each other it will be difficult to use a sharp instrument to cut the valve.

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

1. A bottle, having a neck that is made conical upon its inner side at its upper end, and a chamber formed in its lower end having abrupt walls or shoulders at its upper end, combined with a hollowed elastic plug-valve having its upper end so shaped as to spring out under said walls or shoulders, substantially as shown.

2. A bottle having a neck that is provided with the conical portion B in its upper part, a chamber in its lower end; the upper end of the chamber forming an abrupt shoulder that stands about a right angle to the length of the neck, combined with a compressible valve that has its upper end to extend at right angles to its length, so as to catch under said abrupt shoulder, and a plate that is placed in the end of the valve, substantially as described.

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

ALFRED L. CLARK.

Witnesses:

M. M. CADY,

J. E. ROSSER.