

(No Model.)

B. HALL.
NON-FILLABLE BOTTLE.

No. 552,433.

Patented Dec. 31, 1895.

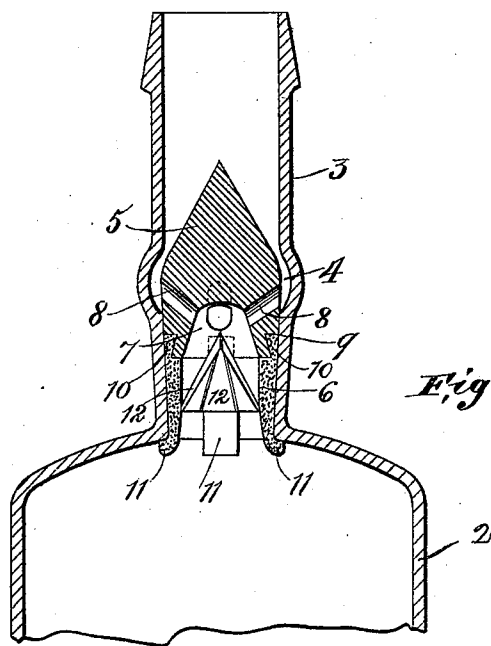


Fig. 1.

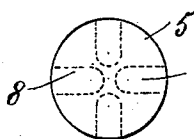


Fig. 2.

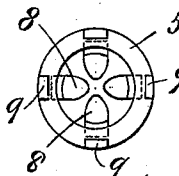


Fig. 3.

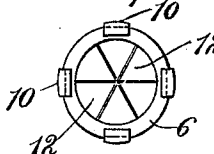


Fig. 4.

WITNESSES:
C. W. Benjamin
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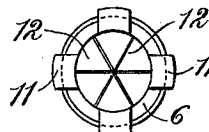


Fig. 5.

INVENTOR
Bicknell Hall
BY
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ATTORNEYS

UNITED STATES PATENT OFFICE.

BICKNELL HALL, OF TAUNTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO EDWARD CHAPIN COLLINS AND NATHAN NEWBURY, OF SAME PLACE.

NON-FILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 552,433, dated December 31, 1895.

Application filed March 2, 1895. Serial No. 540,285. (No model.)

To all whom it may concern:

Be it known that I, BICKNELL HALL, a citizen of the United States, and a resident of Taunton, county of Bristol, and State of Massachusetts, have invented certain new and useful Improvements in Non-Fillable Bottles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts in all the figures.

My invention relates to non-fillable bottles, and the object thereof is to produce a stopper for bottles so constructed that when the bottle has been once filled and the stopper applied the bottle may be emptied of its contents, but cannot be refilled, whereby I guard against frauds often practiced on the proprietors of certain forms or kinds of liquors, cordials, medicines, &c., which are usually bottled by the proprietors and which bear their distinctive marks, by parties so inclined, who simply refill the empty bottles with an article of their own make or with an article of the same general class as that originally contained, but of a cheap or worthless variety, and sell the same as the original article. This object I accomplish by means of the construction set forth in the accompanying specification, of which the accompanying drawings form a part, in which—

Figure 1 is a central vertical section of the neck of a bottle provided with my improved stopper; Fig. 2, a top plan view of a plug constituting part of said stopper; Fig. 3, a bottom plan view of said plug; Fig. 4, a top plan view of an annular attachment provided with wings or valves adapted to be connected with said plug, and Fig. 5 a bottom plan view of said annular attachment.

Referring to the drawings, Fig. 1, the numeral 2 designates the body of a bottle provided with my improved stopper, having a neck 3 to which the invention is applied.

The neck 3 is tubular in form from the nozzle downward to about, or a little below, its middle, where is formed an annular enlargement or cavity 4, and from this point downward the inner walls of the neck are slightly conical or inwardly contracted.

Within the neck is placed my improved stopper, which operates in connection with the annular cavity 4, and consists of a conically-shaped plug 5, the lower end of which is adapted to fit snugly within the neck of the bottle, and an annular hard-rubber attachment 6, connected with the lower end thereof, said parts being constructed and united as follows:

The plug 5 is provided with a conical or bell shaped cavity 7 in the lower end thereof, from which extends outwardly and upwardly a number of ports or passages 8, which open into the annular cavity or chamber 4, and the lower annular portion of said plug is also provided, peripherally, with recesses or cavities 9, triangular in vertical section, with their bases upward.

The annular attachment 6 is tubular in form and the upper end thereof is provided with projections or tongues 10, similar in form to the recesses or cavities 9 in the plug 5, which they are designed to enter and by means of which said parts are secured together. The annular attachment 6 is also provided at its lower end with outwardly-extending projections 11, and midway of its inner walls with elastic triangular wings or valves 12, also of rubber, the base of each being downward, and the arrangement being such that the wings or valves will open outward to permit the outflow of the contents of the bottle, but will close whenever an attempt is made to fill the same.

The plug 5 is preferably composed of glass and the annular attachment 6 of hard rubber, and the elastic valves connected therewith may be formed integral with or attached to said part 6, though I do not limit myself to any particular material in the construction of my improved stopper. I prefer hard rubber for the annular attachment, for the reason that if an attempt be made to destroy or remove the device by heat, the difference in the expansion of the materials will cause the bottle to break and prevent its further use.

By means of the annular chamber 4 and the arrangements of the ports 8 which discharge thereinto the introduction of a wire

or other article to operate the valve and thus allow of the filling of the bottle is prevented.

The parts are assembled and applied in the following manner: The bottle having been filled and the plug 5 and annular attachment 6 connected therewith, as described, the entire device is forced down into the lower part of the neck, as shown in Fig. 1, the conical form of said neck holding the parts firmly in place and in the required position in which, as shown, the ports or passages 8 open into the annular cavity or chamber 4. In this position the projections 11 expand beneath the neck of the bottle and assist in holding the stopper in position and to prevent its removal. The nozzle is then closed by a plug or cork in the usual manner. If, now, it is desired to empty or partially empty the bottle, the cork is removed, as usual, and the bottle held tilted or neck down when the contents will flow out through the valves 12 and ports 8 into and from the chamber 4 and upper neck or nozzle, and this may be repeated or continued till the bottle is empty. Should, however, an attempt be made to refill the bottle through the nozzle in the usual manner, the wings or valves 12 being closed by their elasticity or by the pressure of the fluid thereon no ingress of the fluid to the bottle will be possible. This action of the valve will be the same in whatever position the bottle is held that would admit of pouring fluid into it, and it will thus be seen that I accomplish the object of my invention by means of a device simple in construction and operation, and one which is not likely to get out of order or fail to operate, care being taken at all times to select such material for the various parts thereof as will not be affected by the contents of the bottle.

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

1. The combination of a bottle having an annular chamber in the neck thereof, a conical plug fitted within said neck and having a bell-shaped chamber therein, a series of ports connecting the annular chamber in the

bottle neck and the said bell-shaped chamber, a series of triangular recesses or cavities in the lower portion of the plug, an annular attachment fitted within the neck of the bottle below the plug and having a valve therein, and a series of tongues on the upper end of said attachment adapted to enter the recesses or cavities in the plug to secure the same together, substantially as described.

2. The combination with a bottle having an annular chamber in the neck thereof, of a stopper comprising conical plug adapted to fit within the bottle-neck and having a chamber in the bottom thereof, ports connecting said chamber and the annular chamber in the bottle-neck, an attachment arranged below the said plug and a series of wings or valves secured to said attachment adapted to open and permit the contents of the bottle to be discharged and which automatically close to prevent refilling, substantially as described.

3. The combination with a bottle, of a stopper fitted within the neck thereof and having a chamber therein and outlet ports, an annular attachment arranged beneath the plug, and a series of wings or valves adapted to open and permit the removal of the contents of the bottle and automatically close to prevent refilling, substantially as described.

4. In a bottle stopper, the combination of a plug having a conical chamber and outlet ports, an attachment arranged below the plug and having projections on its lower end to engage with the lower end of the neck of the bottle, a series of recesses 9 in the plug, a series of projections 10 on the attachment to fit in said recesses, a series of wings or valves extending upwardly in contact and arranged substantially in conical form, as and for the purpose described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 28th day of February, 1895.

BICKNELL HALL.

Witnesses:

EDGAR L. CROSSMAN,
H. T. ALBRO.