(No Model.)

D. HEPP.

NON-FILLABLE BOTTLE.

No. 556,974. Patented Mar. 24, 1896.

Fig. 1.

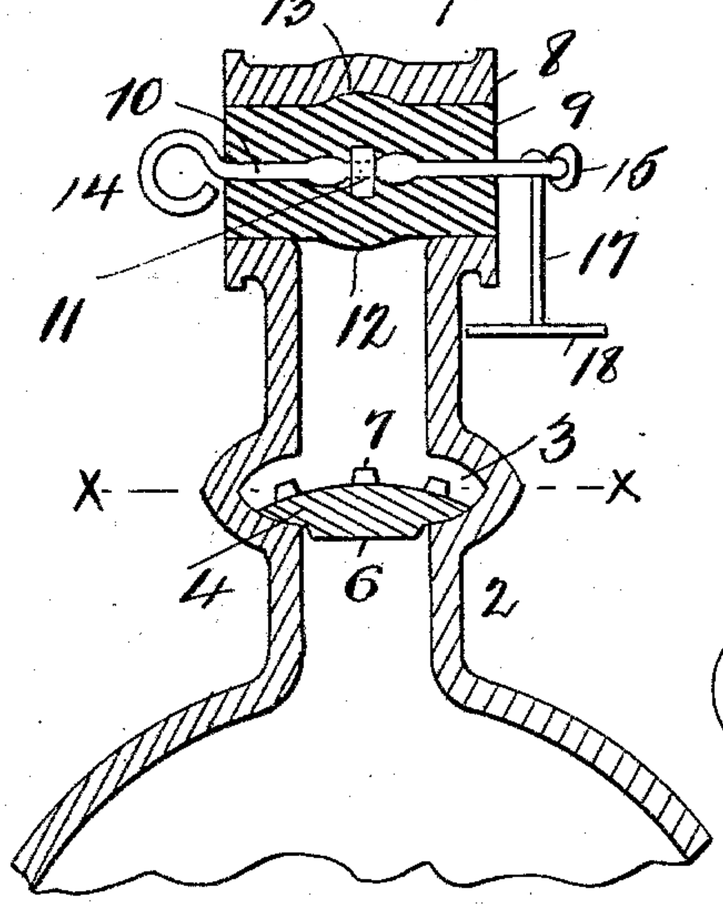


Fig. 2.

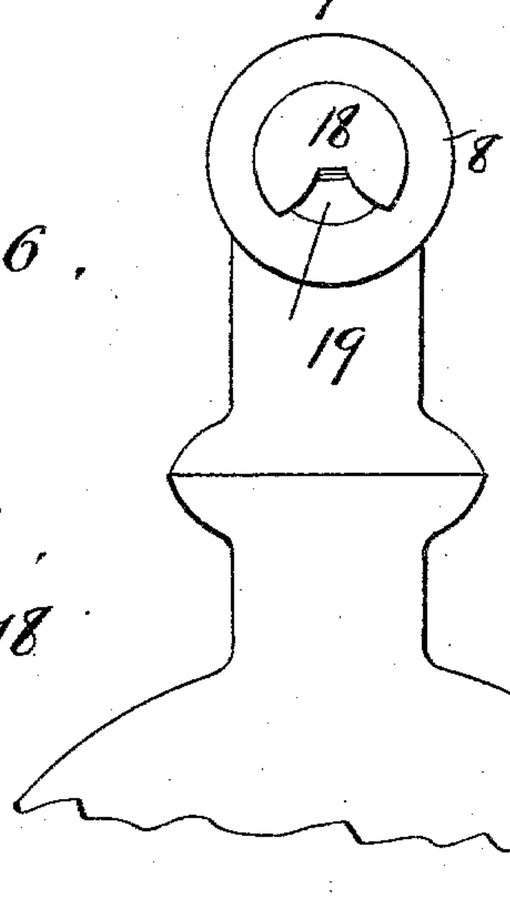


Fig. 6.

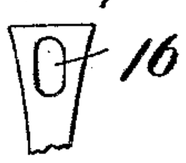


Fig. 7.

Fig. 3.

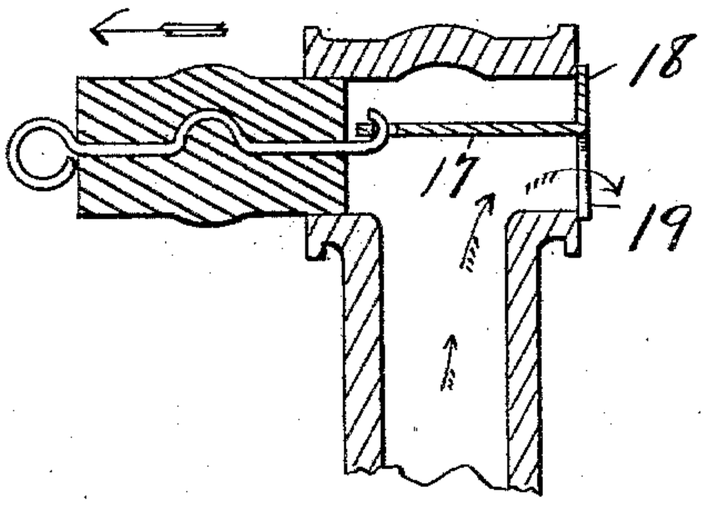


Fig. 8.

Fig. 4

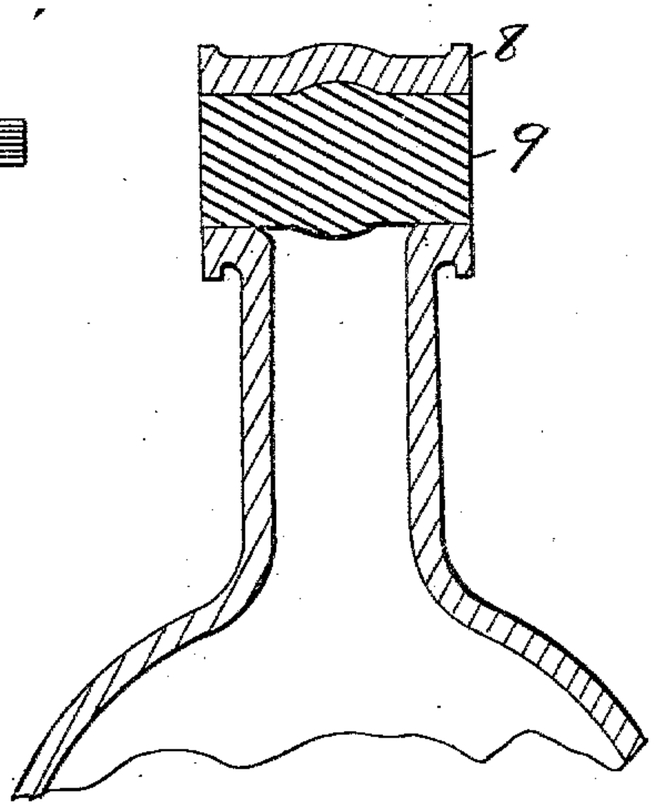
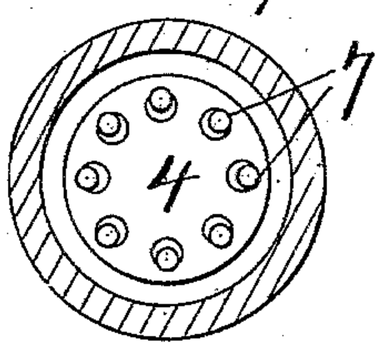


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL HEPP, OF CHICAGO, ILLINOIS.

NON-FILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 556,974, dated March 24, 1896.

Application filed April 27, 1895. Serial No. 547,313. (No model.)

To all whom it may concern:

Be it known that I, DANIEL HEPP, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, 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 figures of reference indicate corresponding parts.

This invention relates to bottles, and the object thereof is to produce a bottle provided with a valve and stopper so constructed and arranged that when the bottle has been once filled and the valve and stopper applied the bottle cannot be again refilled.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 represents a central vertical section of the neck of a bottle provided with my improvement; Fig. 2, a view thereof in elevation, looking in the direction of the arrow shown in Fig. 3; Fig. 3, a similar section to that shown in Fig. 1, the stopper-plug being withdrawn to admit of the discharge of the contents of the bottle; Fig. 4, a sectional view similar to that shown in Fig. 1, the automatic valve and other elements being omitted; Fig. 5, a section on the line *x x* of Fig. 1, and Figs. 6, 7, and 8 details of the construction which I employ.

Referring to the drawings, the numeral 2 designates the neck of a bottle, the inner walls of which are provided with an annular chamber or recess 3, preferably conical in cross-section, with the base directed inwardly, said chamber being adapted to received an automatic valve 4, substantially elliptical in cross-section, and provided, if desired, on its lower surface with a circular projection 6, and also provided on its upper surface or side with a series of upwardly and outwardly directed lugs or projections 7, preferably arranged near the outer perimeter thereof.

On referring to the drawings it will be seen that the neck of my bottle is provided with a three-way nozzle, which is formed by a tube 8 at right angles to the neck of the bottle. In practice this tube, and consequently the nozzle of the bottle, is closed by a plug 9, formed preferably of rubber, within which is placed a rod 10, which is provided centrally with a ring or shoulder 11 mounted thereon, said rod being flattened at each side of said ring or shoulder after the latter has been placed in position on the rod, the object of this arrangement being to prevent the rod from slipping through the plug or stopper, which is formed or molded around said rod in the proper shape and provided about midway thereof with an annular enlargement or shoulder 12 adapted to fit in a corresponding depression or cavity 13 formed in said tube 8. One end of said rod 10 is also provided with a loop or ring 14, and the opposite end thereof, which is preferably corrugated, as shown in Fig. 8, is preferably provided with an enlargement 15, which is adapted to enter a slot 16 formed in the end of the arm 17 of a plate 18, a preferred form of which is shown in elevation in Figs. 2 and 7 and side views of which are given in Figs. 1 and 3. This device is preferably stamped from a piece of steel in the form shown in Fig. 7, after which the arm is bent at right angles to the head 18, and the outer end of the rod 10 with its head 15 is slipped through the slot 16, when the arm 17 and head 18 thereon will depend from the rod 10, as shown in Fig. 1.

The loop or ring 14 may be made so large that it will not pass through the plug-opening, and thereby prevent the plug being withdrawn.

When the parts are thus united, if the plug 9 be drawn through the tube 8 the head 18 on the arm 17 will catch against the end of said tube, as shown in Fig. 3, from which it cannot be removed by pulling on the plug in the direction of the arrow shown in said figure, and the contents of the bottle may flow out through the recess 19 in the bottom of said plate or cap.

The end 15 of the rod 10, after the arm 16 of the cap 18 has been connected therewith, may be upset or formed into a hinge, so as to firmly secure the arm 17 thereto, and these parts I prefer should be made of tempered steel or equivalent material having the required strength, though formed of light or thin material.

The valve 4 may be formed of any desired material, but must be elastic or compressible, and, as hereinbefore stated, the plug 9 is preferably formed of rubber, though I am not limited to the use of this particular material.

The method of assembling the various parts of my improvement and the operation thereof are as follows: The bottle having been filled, the valve 4 is forced down into the neck of the bottle by a tool prepared for this purpose and into the annular chamber 3, as shown in Fig. 1, the projections or lugs 7 formed thereon being directed upward, after which the plug 9, with its inclosed rod, is forced through the tube 8 into the position shown in Figs. 1 and 4, and the arm 17 of the cap 18 is then secured to the end 15 of the rod 10, as hereinbefore described. If, now, it be required to empty the bottle, the plug 9 is pulled or driven through the tube 8 into the position shown in Fig. 3, the cap 18 preventing its removal. In this position it is only necessary to invert the bottle or hold it tilted in the usual position, when the contents thereof will flow out in the manner indicated by the arrows in the neck of the bottle in Fig. 3, the valve 4 in this operation leaving its seat and being supported on the upper walls of the annular chamber 3 by means of the lugs or projections 7, thus enabling the contents of the bottle to flow out around said valve, and this operation, it is evident, may be repeated or continued until the contents of the bottle are fully exhausted. If, now, an attempt be made to refill the bottle, and the same be held in a position in which fluids could be poured into it, the valve 4 will at once be seated in its normal position, or that shown in Fig. 1, after which no fluids can pass into the bottle, and it is evident that this action of the valve 4 would be the same in any position in which the bottle could be held to admit of pouring liquids thereinto.

As thus constructed the plug 9 and cap 18 would defeat any attempt to tamper with the valve 4 or to interfere with the operation thereof in an attempt to fill the bottle by introducing a wire or other instrument through the opening 19 in an attempt to reach said valve, and it is thus evident that I accomplish the object of my invention by means of devices simple in construction and application and effective in operation and which are perfectly adapted to perform the work for which they are intended.

I do not limit myself to the exact form and construction of the various elements of my improved device as shown and described herein, as many changes in the form and combination of said parts may evidently be made without departing from the scope of my invention; but,

Having fully described said invention, its construction and operation, what I claim as new, and desire to secure by Letters Patent, is—

1. A bottle having a tube arranged at right angles to the neck and at the top thereof to form a three-way nozzle, a plug adapted to be inserted in said tube and having a shoulder arranged to fit in a corresponding depression in said tube, a rod secured in the plug, and a plate loosely supported by said rod and adapted to be arranged over one of the ends of said tube, substantially as described and for the purpose set forth.

2. A bottle provided with a three-way nozzle and having an automatic valve in the neck thereof, said nozzle being closed by a plug inserted transversely to the line of the neck of the bottle, said plug being provided with a rod extending through the same, to which is hinged a cap or plate constructed substantially as shown and described.

3. A bottle provided with a three-way nozzle and having an automatic valve in the neck thereof, and the nozzle being closed by a plug inserted transversely to the discharge-orifice of the neck, said plug being provided with a rod extending longitudinally therethrough and provided with means to prevent its withdrawal, and being pivotally connected at one end with a plate adapted to partially close one of the nozzle-openings by means of an arm secured to said plate, substantially as shown and described.

4. A bottle provided with a three-way nozzle and having an automatic valve located in the neck thereof, said nozzle being closed by a plug inserted transversely to the neck of the bottle, said plug being provided with a rod extending longitudinally through the same and provided with means at its center to prevent its withdrawal from the plug and at one end with a handle or loop and at the other being pivotally connected with a plate or head by means of an arm connected therewith, said plate or head being adapted to partially close one of the discharge-orifices when the plug is partially withdrawn, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 16th day of March, 1895.

DANIEL HEPP.

Witnesses:
CHAS. LIESEKE,
EDWARD HENDRICKSON.