(No Model.)

J. A. TRAUT.

BOTTLE STOPPER.

No. 408,364. Patented Aug. 6, 1889.

Fig. 1.

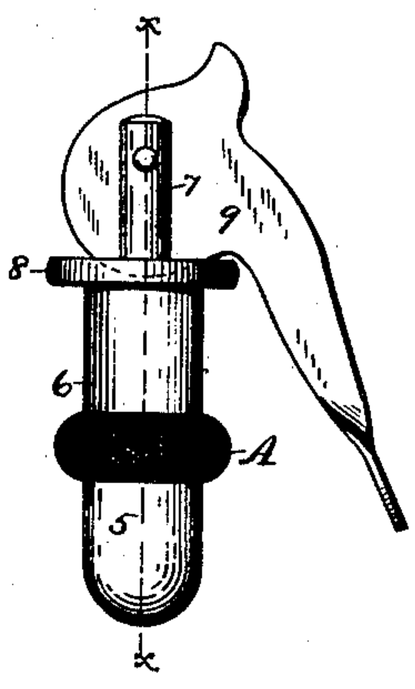


Fig. 2.

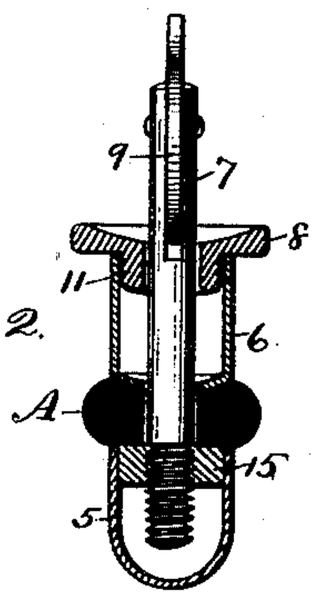


Fig. 3.

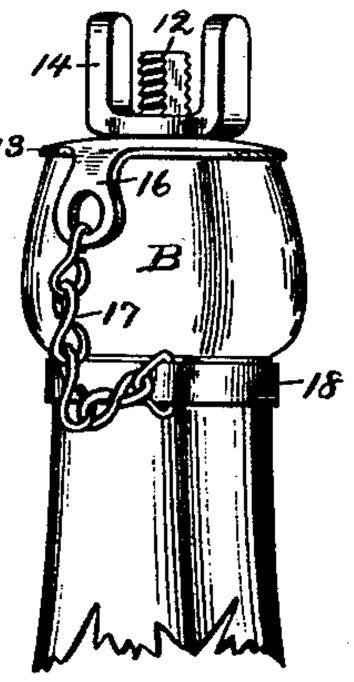
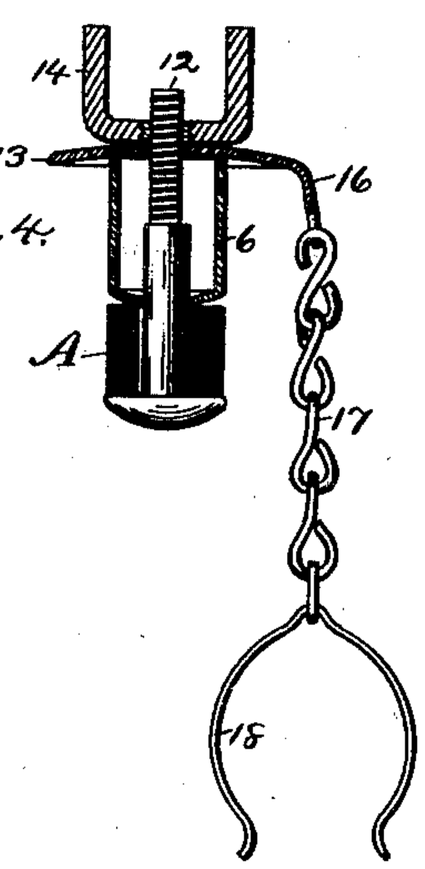


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JUSTUS A. TRAUT, OF NEW BRITAIN, CONNECTICUT.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 408,364, dated August 6, 1889.

Application filed May 16, 1889. Serial No. 310,942. (No model.)

To all whom it may concern:

Be it known that I, JUSTUS A. TRAUT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to improvements in bottle-stoppers of the class which have an internal expansible plug; and the objects of my improvement are to lessen the cost of production, to lighten and otherwise improve the article, and to provide a simple and efficient connection of the stopper and bottle.

In the accompanying drawings, Figure 1 is a side elevation of a bottle-stopper which embodies a portion of my present invention. Fig. 2 is a vertical section of the same (partly in elevation) on the line *x x* of Fig. 1. Fig. 3 is a perspective view illustrating the connection of my bottle-stopper with the bottle; and Fig. 4 is a central vertical section (partly in elevation) of another form of my bottle-stopper, which embodies a portion of my present invention.

The general form of both styles of bottle-stoppers herein illustrated is the same as that which I have already shown in prior Letters Patent to me—viz., Nos. 397,449 and 400,272. The principal change I now make is in forming some of the parts of sheet metal and in furnishing the connection represented in Figs. 3 and 4.

A designates the expansible plug or stopper, which in Figs. 1 and 2 is shown in connection with an adjusting-nut 5, perforated block 6, central rod 7, cap-plate 8, and cam 9. On the under side of the cap-plate 8 I form a central projection or tenon 11, and the perforated block 6 I form of a single piece of sheet metal, with its lower rounded end perforated to receive the rod 7, while its upper end is left open to receive the projection or tenon 11 on the under side of the cap-plate. The two parts will thus be held in place, when under pressure, substantially the same as if the hollow block 6 and cap-plate 8 were integral parts, while at the same time the block is very light and cheaply formed.

In Fig. 4 I form the perforated block 6 in the same way, with the screw-bolt 12 extending through it, and I form the cap-plate 13 crowning or hollowing on its under side as a substitute for the tenon or central projection 11 of the cap-plate 8 of Figs. 1 and 2, said hollowing under side serving, by reason of its form, to center the upper end of the block 6 and bring it into its proper position. The bolt 12 is operated upon to compress the expansible block A by means of the thumb-nut 14, which, for the purpose of this invention, may be considered the equivalent of the cam 9. The cap-plate 13, by being hollowing, also serves to seat itself centrally upon the mouth of the bottle B under the pressure of the thumb-nut and bolt. In both forms of cap-plates the confronting faces of the block 6 and cap-plate have, respectively, a centering recess and projection. The adjusting-nut 5 is also formed mainly of a sheet-metal shell, within the upper end of which I form the internal nut 15, as shown in Fig. 2, the same being secured in place by solder or otherwise, thereby giving the appearance of a solid nut with a hole drilled partially through it, while at the same time it is lighter and cheaper to make. I also provide the cap-plate 13 (or, if desired, the cap-plate 8) with a downwardly-projecting lug 16, perforated to form an eye. In this eye I attach a short length of chain 17, to the other end of which chain I secure the spring-clasp 18, for being slipped upon the neck of the bottle for fastening the stopper thereto so long as it is to be used with that particular bottle, as shown in Fig. 3. The spring-clasp may be detached, if desired, by pulling on the chain, after which the stopper may be secured to another bottle in the manner before described. This connection is cheap and simple and permits the stopper to be lifted sufficiently to take it from the bottle without being permanently detached therefrom. It is readily attached to and detached from ordinary bottles without the use of pliers or special tools.

I claim as my invention—

1. The combination of an expansible block, a central bolt extending through said block, devices for operating said bolt, a cap-plate extending laterally beyond the adjacent parts for resting upon the mouth of the bottle, and the block 6, consisting of sheet metal in the

form of a tube open at its upper end and with the lower end rounded and perforated to receive the body of said central bolt, the confronting faces of said cap and the block 6 being provided with a centering projection and recess, respectively, substantially as described, and for the purpose specified.

2. The combination of an expansible block, a central bolt extending through said block, devices for operating said bolt, the cap-plate 8, extended laterally beyond the adjacent parts for resting upon the mouth of the bottle, and having also the central inwardly-projecting tenon 11, and the block 6 of sheet metal, having a rounded and perforated lower end and an open upper end, which receives and is fitted to the tenon on said cap, substantially as described, and for the purpose specified.

3. The combination of an expansible block, a central bolt extending through said block and having a threaded lower end, devices for operating said bolt, the cap-plate adapted to rest on the mouth of the bottle, the perforated block 6, and the adjusting-nut 5, consisting of the sheet-metal shell and internal nut 15 at its upper end, the end of the shell and upper face of said nut confronting the expansible block, substantially as described, and for the purpose specified.

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