

(No Model.)

W. HAYES & H. P. ROBERTS.
SELF SEALING BOTTLE.

No. 500,499.

Patented June 27, 1893.

Fig. 1-

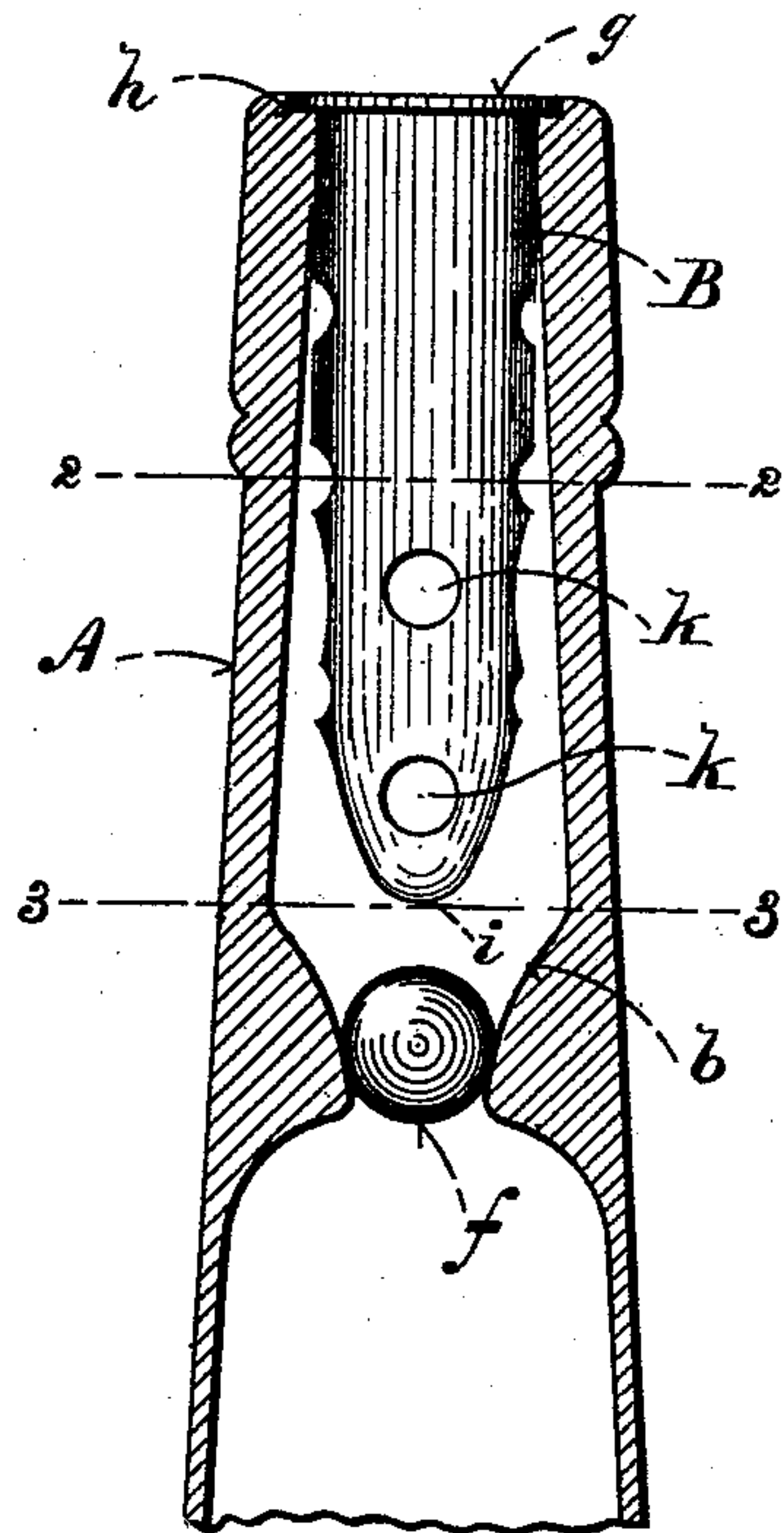


Fig. 2-

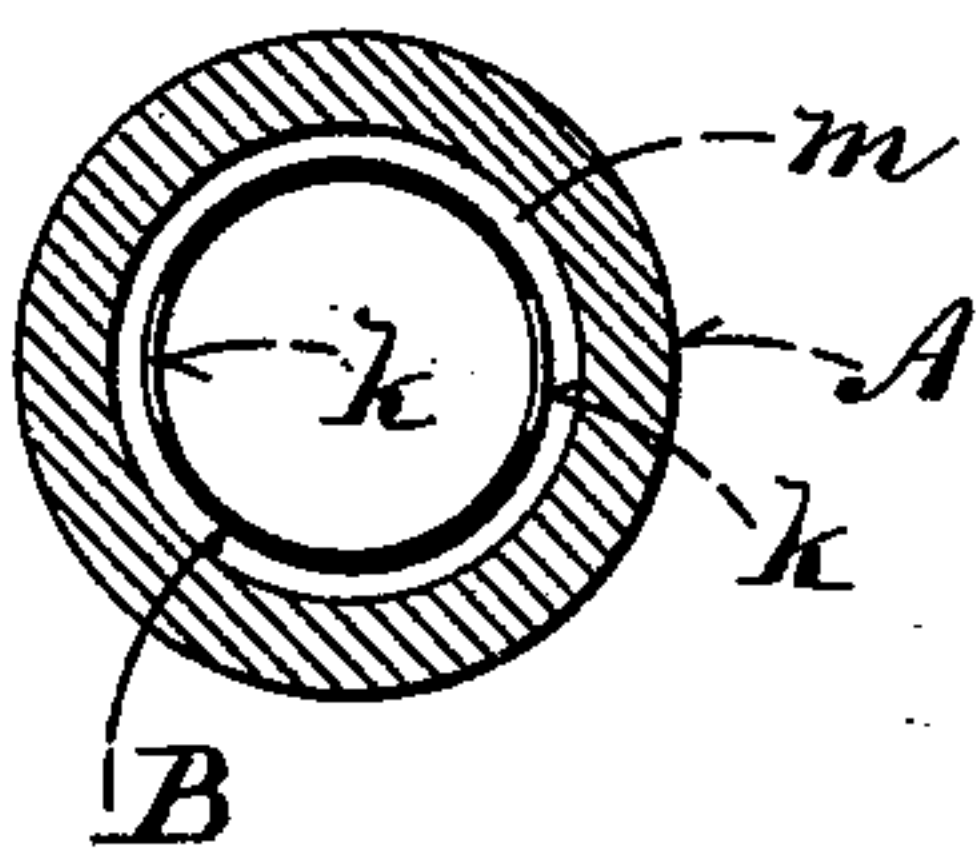
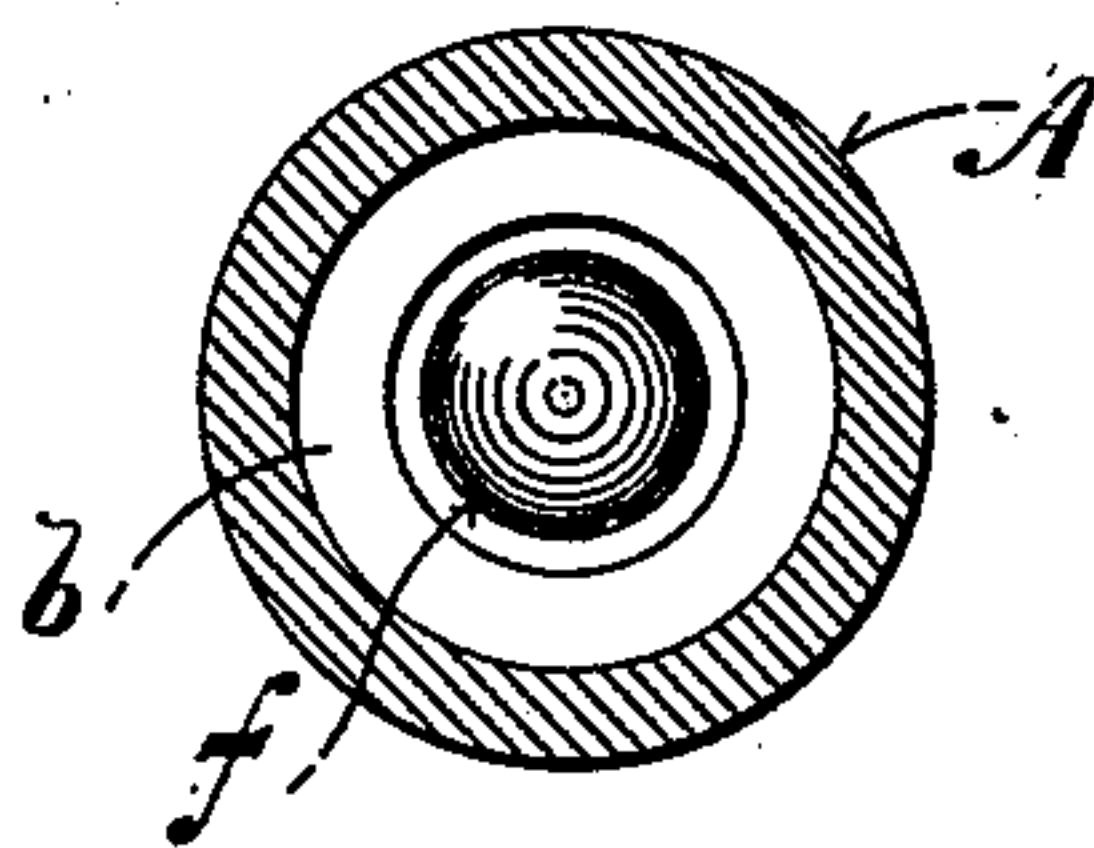


Fig. 3-



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UNITED STATES PATENT OFFICE.

WILLIAM HAYES AND HENRY P. ROBERTS, OF BOSTON, MASSACHUSETTS.

SELF-SEALING BOTTLE.

SPECIFICATION forming part of Letters Patent No. 500,499, dated June 27, 1893.

Application filed November 19, 1892. Serial No. 452,505. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HAYES and HENRY P. ROBERTS, of Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Self-Sealing Bottles, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical transverse section showing the neck of our improved bottle; Fig. 2 a horizontal section taken on line, 2, 2, in Fig. 1, and Fig. 3 a horizontal section taken on line, 3, 3, in Fig. 1.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates especially to a mechanism for preventing bottles or other liquid receptacles from being refilled after having been emptied of their contents, it being particularly designed for use with bottles containing liquors or medicines wherewith a trade-mark or peculiarly constructed bottle is used so that goods of an inferior quality cannot be substituted for the original contents.

In the drawings, A represents the bottle neck in which at an appreciable distance from its mouth the walls are constructed to converge inwardly forming an annular approximately conical valve seat, *b*. A ball-valve, *f*, engages this seat. The stopper, B, is hollow and approximately conical. Around its base or mouth it is provided with an annular flange, *g*, which is received by an annular rabbet, *h*, formed around the mouth of the bottle. This stopper is thus pendent within the neck above the ball, *f*, and is preferably secured therein by cement or other means. The apex, *i*, of the stopper is thus disposed within such distance of the valve, *f*, when in its normal position on its seat, as to permit said valve to leave the seat sufficiently for the liquid contents of the bottle to pass around it. A series of openings, *k*, are formed in the side wall of the hollow conical stopper, but

none appreciably near its apex. As the walls of the bottle neck flare inwardly a space, *m*, is left between the stopple and walls. The base or mouth of the conical stopper may be closed by the ordinary cork-stopper.

In use the bottle is filled, the ball valve, *f*, is then dropped onto its seat and the foraminous conical stopper, B, is inserted in the mouth of the bottle and secured, as shown. The bottle is then corked in the usual manner. By means of this mechanism when the bottle is inverted the ball valve will leave its seat sufficiently to allow the contents thereof to be passed through the perforations or openings, *k*, in the glass stopper, B. Said openings also form vents to admit the air in the bottle when thus inverted and facilitate the flow of the liquid. When the bottle is in upright position there being no openings, *k*, in the apex of the conical stopper it is practically impossible to insert any implement, as a wire, therethrough whereby the ball may be elevated from its seat and permit the liquid to be poured into the bottle.

The openings, *k*, are so arranged that the valve when the bottle is inverted can have no effect to close them, and they form a perfect vent for the air overcoming an objectionable feature in many of the self-sealing bottle mechanisms in common use.

Having thus explained our invention, what we claim is—

In a bottle or similar liquid receptacle the neck provided interiorly with the downwardly converging valve seat, *b*, in combination with the ball valve fitted to engage said seat and close the neck against the insertion of liquid therein; and the hollow approximately conical stopper, B, having its base rigidly secured in the mouth of said bottle and normally out of contact with said valve, said stopper having openings, *K*, in its side walls an appreciable distance from its apex, substantially as described.

WILLIAM HAYES.
HENRY P. ROBERTS.

Witnesses:

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K. DUFFEE.