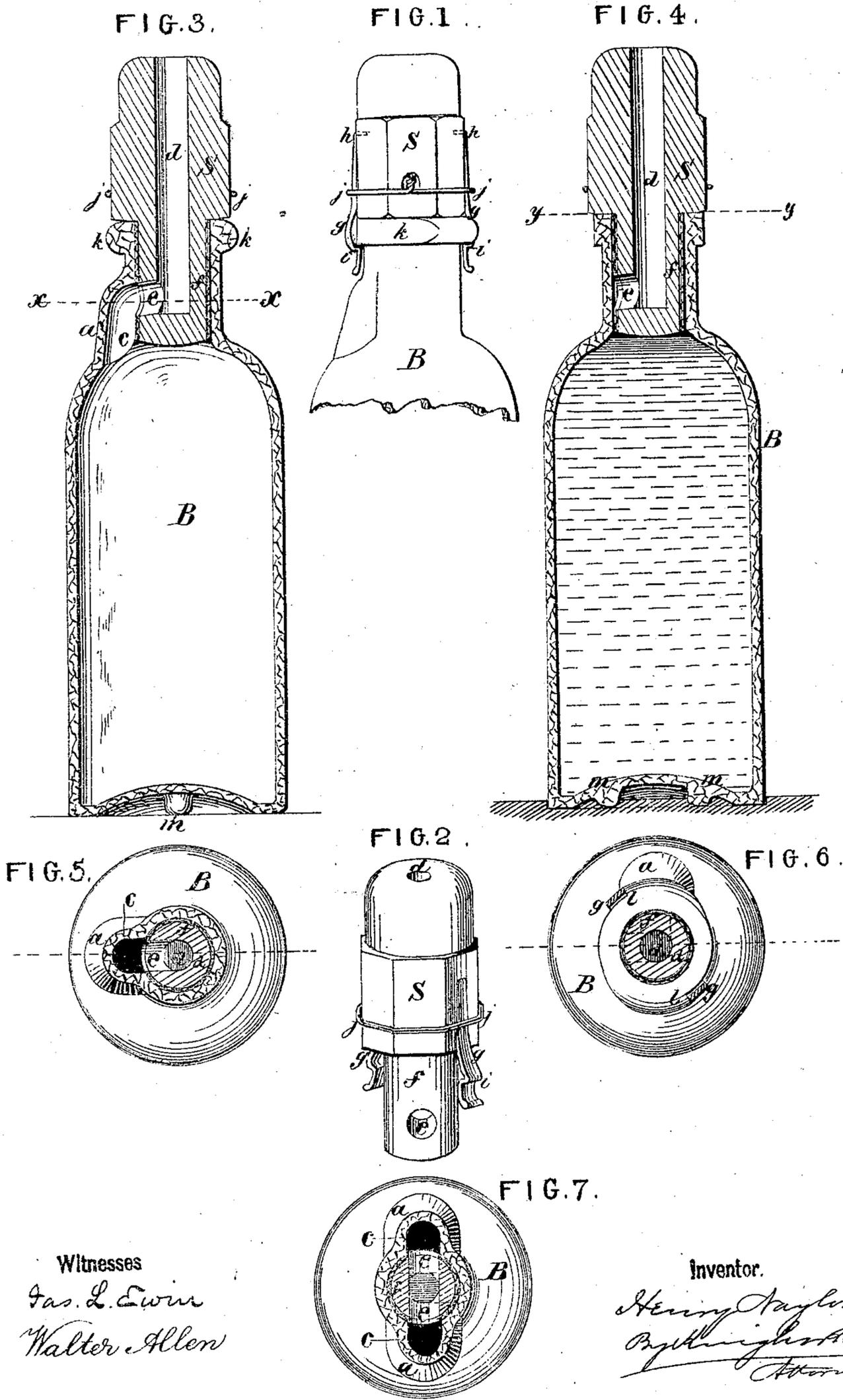


H. NAYLOR.

Bottles and Bottle-Stoppers.

No. 136,534.

Patented March 4, 1873.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY NAYLOR, OF OIL CITY, PENNSYLVANIA.

## IMPROVEMENT IN BOTTLES AND BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. 136,534, dated March 4, 1873.

*To all whom it may concern:*

Be it known that I, HENRY NAYLOR, of Oil City, in the county of Venango and State of Pennsylvania, have invented an Improvement in Bottles and Stoppers therefor, of which the following is a specification:

### *Nature and Objects of the Invention.*

The subject of my invention is a bottle capable of being blown, and provided with a faucet-stopper which need not be removed for filling the bottle or pouring therefrom, and when closed will retain liquors or gases under pressure.

### *Description of the Drawing.*

Figure 1 is an elevation of the upper part of a bottle with stopper applied illustrating my invention. Fig. 2 is an elevation of the stopper alone. Fig. 3 is a vertical section of the entire bottle and stopper. Fig. 4 is a vertical section of the same in a plane at right angles to that shown in Fig. 3. Fig. 5 is a horizontal section on the line *xx*, Fig. 3. Fig. 6 is a horizontal section on the line *yy*, Fig. 4. Fig. 7 is a horizontal section on the line *xx*, Fig. 3, illustrating a modification.

### *General Description.*

The bottle *B* may be blown of glass in customary manner, an excrescence, *a*, being formed in the side of the neck, producing on the inside a concavity or channel, *c*. The stopper *S* is formed of wood, metal, glass, or cork, with a central duct, *d*, extending from its top nearly, but not quite, to the bottom of the stopper, said central duct communicating at its lower end with a lateral opening, *e*, in the side of the stopper, which opening communicates with the cavity *c*, and thus with the interior of the bottle, when the stopper is turned into the position shown in Fig. 3. The cylindrical part *f* of the stopper, which fits within the neck of the bottle, is thus made to act as the plug of an ordinary faucet.

If preferred, the bottle may be formed with the two cavities or channels *c c*, and the stopper with two lateral openings or ducts, *e e*, as illustrated in Fig. 7, in order to give a more free passage in filling and emptying. For the same object the channel or channels *c* may be continued around the neck of the bottle as far as desired, leaving space sufficient to effectually cover the opening or openings *e* when turned into the closed position.

To retain the stopper in its seat and permit its rotation I employ catches *g g*, secured to its sides by a wire, *j*, and having at their upper ends points or spurs *h h*, occupying holes in the sides of the stopper. The lower ends of the catches are formed with shoulders *i i*, engaging over the flange *k* at top of the neck of the bottle, the said flange being formed with shoulders *l l*, limiting the rotation of the stopper to the extent necessary to open and close it.

The catches *g g* may be made to spring over the flange of the bottle when the stopper is first inserted, and thus retain it until it is necessary to remove it; or they may be placed in position after the insertion of the stopper, and then secured by the application of the wire *j*.

In ordinary use the stopper is not removed for filling, emptying, or cleansing the bottle, the simple rotation of the stopper being sufficient to open or close it, and when it is closed it is both tight and secure, so as to retain fermented or aerated liquors without any additional fastening.

To make the stopper tight, if of rigid material, its plug portion *f* is surrounded with rubber, cork, leather, cloth, felt, or any suitable packing.

*m m* represent projections on the bottom of the bottle, for use in connection with a bottling-machine, which will form the subject of a separate application for Letters Patent.

I am aware that drop-bottles have been made with grooves in the neck, and stopper brought into coincidence by turning the stopper; but an essential feature of my invention is the duct, extending through the center of the stopper, in contradistinction to a groove in its side. By the use of the said central duct the surface of the stopper is broken only by a simple aperture, instead of an extended groove, and its efficiency for retaining aerated liquors is thus much greater.

I claim as my invention—

The concavity *c*, central duct *d*, and lateral opening *e*, constructed and arranged as herein shown and described, in combination with suitable fastenings for retaining and permitting the rotation of the stopper, substantially as set forth.

HENRY NAYLOR.

Witnesses:

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