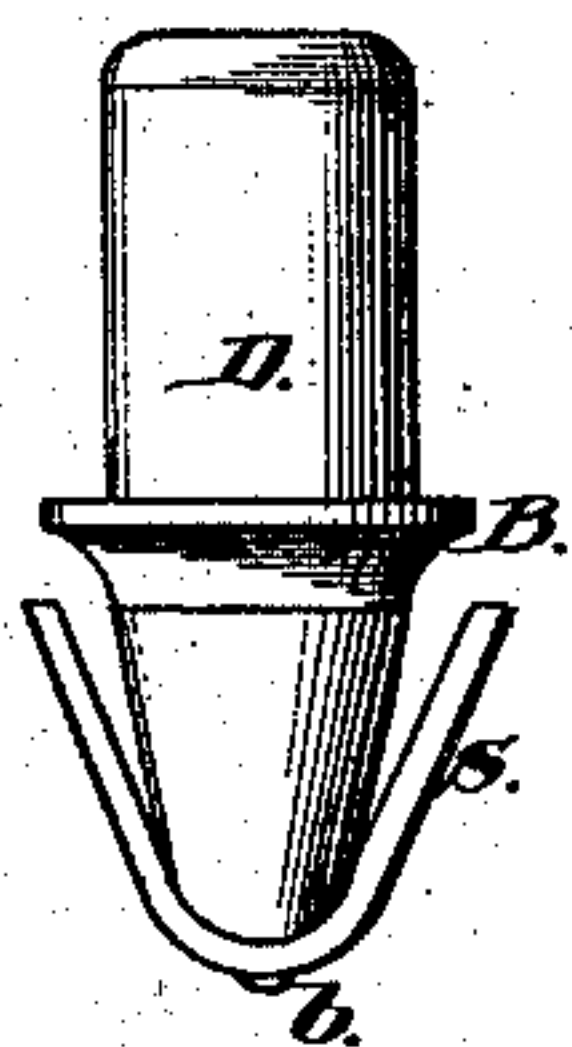


T. W. MURRAY.  
Bottle-Stopper.

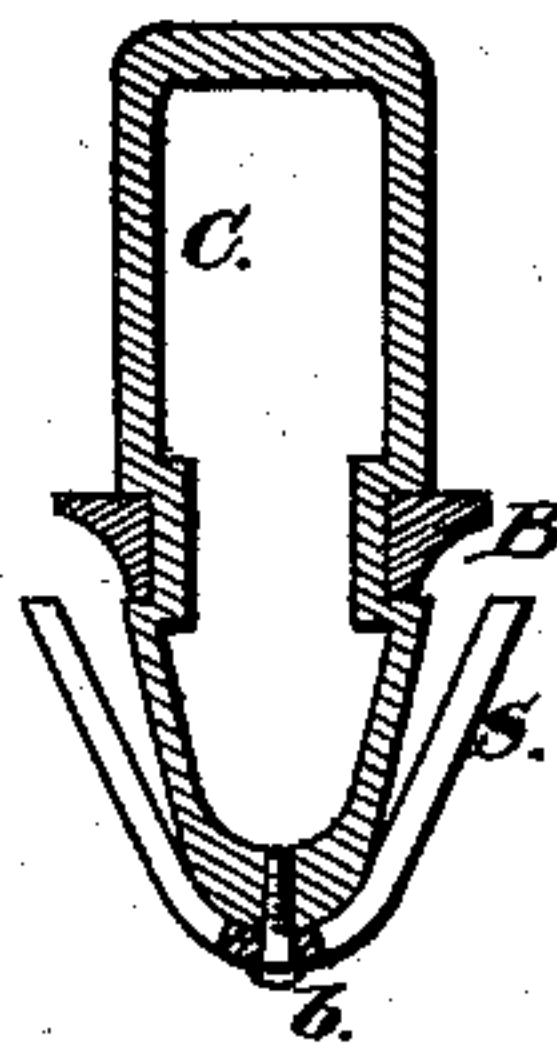
No. 163,026.

Patented May 11, 1875.

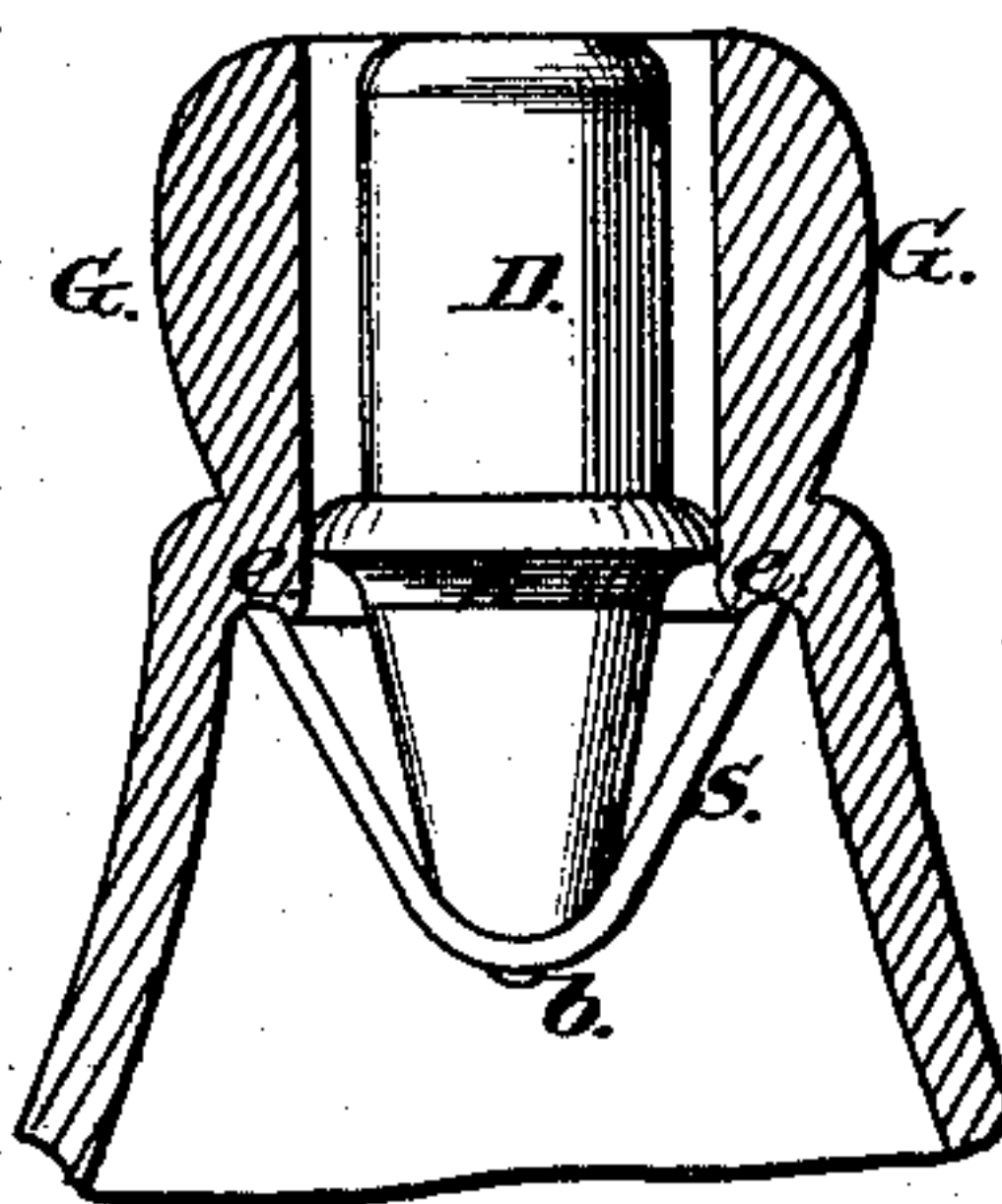
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

THOMAS W. MURRAY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS  
RIGHT TO HENRY VAN DERBECK, OF SAME PLACE.

## IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **163,026**, dated May 11, 1875; application filed  
March 17, 1875.

*To all whom it may concern:*

Be it known that I, THOS. W. MURRAY, of the city, county, and State of New York, have invented a new and Improved Device for Stopping Bottles; and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured by Letters Patent.

This invention relates to a new and improved stopper for bottles containing gaseous liquids, whereby a very durable, instantaneous acting and effectual contrivance is obtained for the purpose.

In the accompanying sheet of drawings, Figure 1 is a side view of my invention. Fig. 2 is a section of the same. Fig. 3 is a section of the head and neck of a bottle, showing the position of the stopper when the bottle is filled with gaseous liquid.

Similar letters of reference indicate like parts.

D represents a hollow shank possessing durability, impermeability, and buoyancy, composed of a tough light material. About midway on said shank a recess is molded, into which is securely fastened the elastic band B. Below this recess the shank gradually tapers to its end, to which is firmly fastened the double or forked spring S. C, Fig. 2, shows the cavity in the shank. This cavity, which is air and water tight, renders the shank sufficiently buoyant to carry the spring S, band B, and screw b. G, Fig. 3, represents a section of the neck and head of a bottle. The glass projection e is made onto the base of its mouth for the purpose of holding the spring S from slipping by. The spring S and fastening b, as attached, form a perfect ballast for the shank.

The objects of this invention are to furnish a hermetic stopper of great durability, which will not break or get out of order, which can

be used an unlimited number of times, and which, by its buoyancy, will rise with the liquid while the bottle is being filled, thus rendering it of great value to all manufacturers of aerated waters, using the filling-machines now in general use, as no new or different machinery is required to fill bottles containing these stoppers.

The manner of operating this invention is as follows: A bottle made as above described, and containing one of these stoppers, is placed in any ordinary machine, the aerated liquid let in, when the stopper rises, right end up, with the liquid. When the bottle is sufficiently filled, and the liquid turned off, the upward pressure of the gas will drive the shank D up and into the mouth of the bottle, the ends of the spring S striking the projection e and spreading open until they touch the sides of the bottle, thus locking fast, and preventing the shank D from rising any higher. At the same instant the gas compresses the band B into the mouth of the bottle, hermetically sealing it. The bottle is opened by pressing the shank D down with the thumb or fingers. In pouring out the stopper floats away from the mouth of the bottle, giving a clear passage for its contents, doing the same when the bottle is washed preparatory to refilling, thus possessing all these advantages over stoppers operating by gravitation.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

A hermetic stopper for gaseous liquids, operating as herein described, made of a hollow shank, D, to which, about midway of its length, is fastened the elastic band B, and at its end or base the forked or double spring S, the latter acting in the twofold capacity of ballasting and locking fast the shank D, all working in combination with a bottle having the pendent projection e, substantially as and for the purpose set forth.

THOS. W. MURRAY.

Witnesses:

HENRY VAN DERBECK.

LEWIS L. PIERCE.