S. S. NEWTON.

BOTTLE STOPPER.

No. 251,063. Patented Dec. 20, 1881.

Fig. 1.

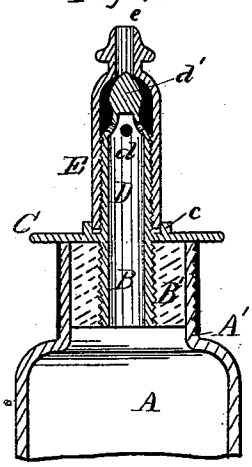
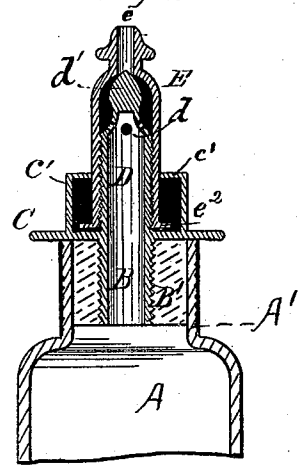


Fig. 2.



Witnesses:
H. A. Low
L. H. Marshall

Inventor:
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UNITED STATES PATENT OFFICE.

STEPHEN S. NEWTON, OF BINGHAMTON, NEW YORK.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 251,063, dated December 20, 1881.

Application filed August 15, 1879.

To all whom it may concern:

Be it known that I, STEPHEN S. NEWTON, of Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figures 1 and 2 are vertical sections of my stoppers.

A is the bottle, and A′ is the neck thereof. B′ is an annulus, of cork or other suitable material, fitting closely within the neck A′. B D is the cork-tube. C is a flange projecting horizontally from the central part of the cork-tube. The cork-tube is constructed with a central opening extending from its lower end to a point near its upper end, and of nearly uniform diameter throughout, except near its upper end, where it is contracted, the walls of the cork-tube being correspondingly reduced, and terminating in an upwardly-projecting head, *d′*.

d d represent lateral openings or ports formed in the reduced part of the cork-tube B. The outside of the upper end, D, of the tube is screw-threaded, and is of uniform diameter below the head *d′*, by preference.

E is an internally-screw-threaded cap, provided at its upper end with a discharge-port, *e*, the inner surface of this end of the tube constituting a valve-seat, conforming in shape to the upper end of the head *d′*, which closes the port *e* when the cap is screwed down, as shown in the drawings, and thereby prevents the discharge of the contents of the bottle; but, as will be readily understood, when the cap E is screwed up the port *e* is opened to permit the contents of the bottle to pass out freely.

In Fig. 1 I employ a narrow flange, *c*, projecting upwardly from the horizontal flange C, within which the lower end of the cap E enters for the purpose of hiding the screw-thread upon the tube B D, which would otherwise be exposed when the cap E is screwed up.

In Fig. 2, C′ is a flange rising from flange C, and having at its upper edge an inwardly-turned lip, *c′*, adapted to engage with an outwardly-turned flange, e^2, on the lower end of the cap E, to prevent the accidental removal of said cap.

I am aware that a patent granted N. D. Whitin, April 29, 1842, shows a cork-tube constructed with a screw-thread at its upper end, in combination with an internally-screw-threaded cylinder or cap having a central discharging-port, the cork-tube having vertical ports in its upper end, which are closed by the screw-threaded cylinder or cap; but in Whitin's stopper the opening through the cork-tube is expanded at the upper end, thus necessitating the employment of a core with a bulb or head at its upper end in casting the cork-tube, whereas in my construction, by the use of the contracted neck and lateral ports *d* and head *d′*, I am enabled to construct my cork-tube core without the bulb or head at its upper end, which facilitates manufacturing the stopper cheaply. Again, in Whitin's stopper the employment of the enlarged chamber at the upper end of the cork-tube necessitates the use of a discharging tube or cap having a much greater diameter relative to the diameter of the tube where it passes through the cork; and I have found that my construction facilitates the discharge from the bottle of such material as powder, because I can make the tube of comparatively large internal diameter, with a row of ports equal in area to the area of the tube in cross-section, the contents of the bottle being forced through the ports by the pressure of a comparatively deep body of material directly on each port. In my stopper the arrangement of the lateral ports of the cork-tube in the reduced portion of the tube permits liquid to flow from the bottle into the cavity which surrounds the upper end of the cork-tube, and as this liquid is liable to pass down the screw-threads I have found it desirable to employ a flange, C, projecting horizontally from the cork-tube at such point that the lower end of the cap will abut against it (the flange) to prevent leakage at this point.

What I claim is—

1. In a bottle-stopper, the cork-tube B D, provided with an internal opening of substantially uniform diameter throughout and of reduced external diameter near its upper end, and having lateral ports through the reduced upper end, in combination with an internally-screw-threaded cap provided with a discharge-

port which is closed by the proj cting head of the cork-tube, substantially as set forth.

2. In a bottle-stopper, the cork-tube B D, provided with an internal opening of substantially uniform diameter throughout and of reduced external diameter near its upper end, and having lateral ports through the reduced upper end, in combination with an internally-screw-threaded cap provided with a discharge-port which is closed by the projecting head of the cork-tube, and the flange C, projecting horizontally from the cork-tube to receive the lower end of the screw-threaded cap, substantially as set forth.

3. In a bottle-stopper, the combination of the flange C, the vertical flange *c*, the screw-threaded part D of the discharging-tube, and the internally-screw-threaded cap E, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

STEPHEN S. NEWTON.

Witnesses:
R. D. O. SMITH,
H. H. BLISS.