

S. S. NEWTON.
Bottle-Stopper.

No. 225,298.

Patented Mar. 9, 1880.

Fig. 3.

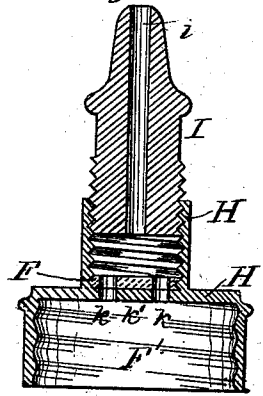


Fig. 2.

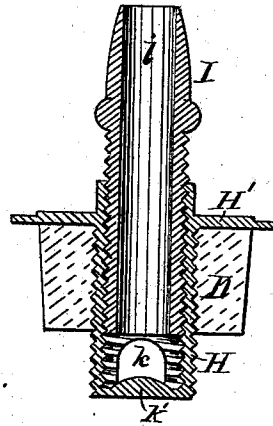
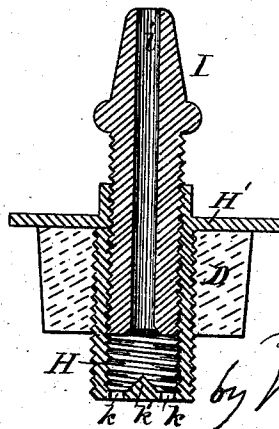


Fig. 1.



Witnesses:

N. H. Low.
L. H. Marshall

Inventor:

Stephen S. Newton
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att'y

UNITED STATES PATENT OFFICE.

STEPHEN S. NEWTON, OF BINGHAMTON, NEW YORK.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 225,298, dated March 9, 1880.

Application filed August 1, 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.

Figure 1 is a vertical section of my improved stopper, and Figs. 2 and 3 show modifications thereof.

Referring to Figs. 1 and 2, H is an internally screw-threaded supporting-tube, closed at its lower end, except that it is provided with one or more eccentric ports, *k*.

D is an annulus, of cork, rubber, or other elastic material, by means of which the stopper can be firmly secured in the neck of a bottle.

H' is a flange projecting horizontally from the supporting-tube H, and adapted to rest upon and cover the mouth of the bottle, and to be grasped by the operator when placing the stopper in the bottle or withdrawing it therefrom. The flange also serves as a stop against which the annulus is screwed when being attached to the tube H.

I is a discharging-tube, screw-threaded externally to engage with the internal thread of tube H. The discharging-tube is provided with a central discharge-opening of substantially uniform size throughout its entire length, the opening through the tube having a radius a little shorter than the distance from the inner edge of the ports *k* to the center of the tube in Fig. 1, so that when the tube is screwed down against the bottom of the tube H the lower end of the discharge-tube will close the port or ports, as will be readily understood.

In Fig. 2 the port in tube H is formed in one side thereof, and is opened and closed by the rising and falling of the discharging-tube, in substantially the same manner as is the corresponding port in Fig. 1.

In Fig. 3 I have shown a modification of the

structure shown in Figs. 1 and 2, the modification consisting in substituting for the annulus D a flange, F', depending from the flange H, for the purpose of securing the stopper to the neck of a bottle, and in using a shorter supporting-tube, which in this figure (Fig. 3) does not extend below the flange H', the construction and arrangement of the supporting-tube, the discharging-tube, and the ports at the lower end of the tube being the same as are shown in Fig. 1.

In Fig. 3 I have shown a washer, F, in the bottom of the supporting-tube, against which the lower end of the discharging-tube strikes when the said tube is screwed down, the washer being provided with eccentric openings corresponding to the port or ports *k*.

In Fig. 1 the bottom of the supporting-tube is provided with an upwardly-projecting conical portion, *k'*, the lower end of the discharging-tube being correspondingly shaped, so that these parts will fit each other closely when the discharging-tube is screwed down.

By an examination of the drawings it will be seen that in each of the constructions shown the rising and falling of the delivery-tube, through which the contents of the bottle are discharged, (and which is provided with a central duct, open at its lower end,) opens and closes the eccentric ports in the lower end of the supporting-tube H; and it will further be seen that by means of this construction of parts I am enabled to use a packing-washer for the purpose of preventing leakage.

It will also be seen that in the construction shown the discharging-tubes have openings or ducts of substantially uniform size from end to end, and may therefore be cast upon a metal core having straight sides, the same being true of the tubes into which the discharging-tubes are screwed.

One advantage which is incident to the construction shown in Fig. 2 is this: The port or ports *k* may be made very large, thus specially adapting this stopper for use upon powder-bottles.

Although I prefer to use the annulus D for the purpose of supporting the tube H within the neck of a bottle, yet it is apparent that the depending flange F' is the equivalent of the

annulus, so far as that function is concerned, except that it necessitates a special construction of the bottle-neck—that is to say, the neck must be screw-threaded externally.

5 What I claim is—

In a bottle-stopper, the combination of the internally-threaded supporting-tube H, having at its lower end one or more eccentric ports, and having a flange, H', with a removable ex-
10 ternally-threaded discharge-tube, I, having a central aperture at its lower end and project-

ing outwardly beyond the supporting-tube, with suitable means for securing the supporting-tube in a bottle, as and for the purpose 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:

D. T. PECK,

G. B. NEWTON.