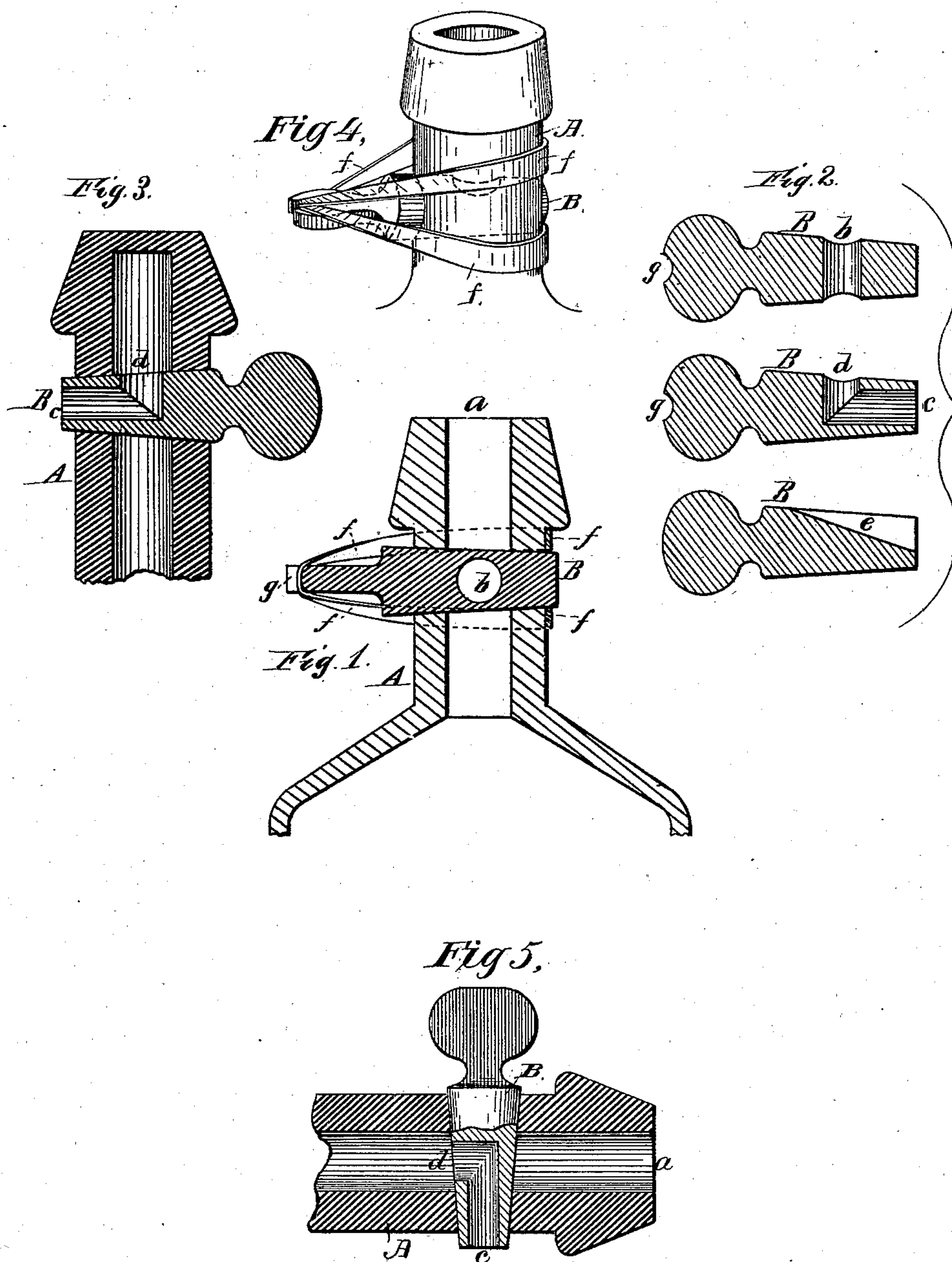


H. C. JOHNSON.
Bottle Stopper.

No. 232,404.

Patented Sept. 21, 1880.



Attest:
Chas. W. Searle,
D. P. Cowl

H. C. Johnson
Inventor:
By Worth Osgood,
Attorney.

UNITED STATES PATENT OFFICE.

HENRY C. JOHNSON, OF MEADVILLE, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 232,404, dated September 21, 1880.

Application filed October 21, 1878.

To all whom it may concern:

Be it known that I, HENRY C. JOHNSON, of Meadville, county of Crawford, and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is an axial section of an ordinary bottle having a stopper applied thereto in accordance with my invention, and Fig. 2 represents, in section, three forms which may be given the plugs, stoppers, or gates. Fig. 3 is a sectional view of the neck of a bottle, showing the end closed or sealed and the stopper in place. Fig. 4 is a perspective view, illustrating the mode of applying a rubber band to serve as a spring in retaining the stopper within its seat and in closed position. Fig. 5 is an axial section, illustrating the mode of discharging the contents through the stopper at a right angle to the bottle-neck.

Like letters in all the figures indicate corresponding parts.

The object of my invention is to provide a simple and cheap stopper for bottles, which shall be efficient for the purpose of allowing a small quantity of the liquid to be withdrawn, and afterward to securely cork the remaining liquid, and which shall dispense with the use of rubber corks and their accompanying wire fastenings, such as are now commonly used.

My invention relates to a bottle provided with an apertured stopper fitted transversely in the neck and adapted to turn therein.

My improvements particularly consist, first, in combining with such rotatable apertured stopper an annular gum spring or band, so applied as to permit the ready removal of the stopper when required, also tending to keep the stopper closed and to close it when opened and released; and, secondly, in combining a bottle having through it a continuous passage and a transverse aperture with a rotatable stopper contained in the transverse aperture, and having a passage connecting with the usual neck-passage, and extending thence in a direction to discharge the contents in a direction at a right angle to and through the bottle-neck.

A is the neck of the bottle, made a little

thicker than ordinarily, and perforated substantially at right angles to its axis. This perforation forms the seat for the plug B, which is preferably made slightly tapering, as are ordinary faucet-plugs, the better to retain a perfectly-tight joint to prevent escape of liquid. The plug B may, as indicated in Fig. 2, be constructed in a variety of ways. It may have the single opening *b*, which permits the liquid to flow out at mouth *a* when turned in the proper direction, the solid portions preventing any escape when properly closed.

A central axial perforation, *c*, may unite with another partial opening, *d*, or an inclined groove, *e*, may be provided in one side of the plug, the operation of which will be to allow flow of liquid through the plug, as is easily understood.

So far as the principal feature of the invention is concerned, it is obvious that the form or particular construction of the plug is not essential to its operation, and that any suitable construction may be adopted.

The mouth of the bottle may be closed, if desired, as indicated in Fig. 3, in which event the escape of liquid will necessarily take place through the plug.

The thumb-piece connected with the plug is preferably so constructed as not to project beyond the body of the bottle, by which construction the liability to accident is very much diminished. When the joints are properly finished it is not believed that any ordinary accident will displace the plug; but in order to insure its stability the plug may be secured in a variety of ways. As in Fig. 1, a rubber or other elastic band, *f*, is made to surround the neck of the bottle and to constantly press the plug against its conical seat. Should any pressure displace the plug, the band will instantly return it to its proper position, and this band is preferred to any other means of securing the plug, because it can be so readily applied, and will in no manner interfere with the working of the stopper. The said band also exerts a rotating strain on the plug when the latter has been turned to open it, so as to tend to return it to closed position. Further, it is comparatively inexpensive in itself, and requires no extra fitting of the device, save a notch, *g*, in the thumb-piece,

The cross-perforation will in no way interfere with the filling of the bottle, and in case of loss or accident to the stopper the bottle be closed by use of an ordinary cork. There
 5 need be no difficulty in drilling or otherwise forming the desired cross-perforation. It is preferred that the joint between the stopper and its seat be ground; but this is not essential. If it be desired to drill the seat for the
 10 stopper, it is only necessary to scratch the glass (or other vitreous material of the bottle) slightly, and to moisten the metallic drill with spirits of turpentine. The operation may then be very easily and quickly accomplished.

15 The device may be applied to very many of the bottles now in common use, the necks of which are reasonably thick and sufficiently strong to afford the desired seat for the plug.

The device, though of universal application
 20 in connection with bottles, is more especially intended for those containing beer, wine, &c., from which a gas naturally arises and produces an internal pressure. The stopper being located transversely to the neck of the
 25 bottle, it is apparent that no pressure from within will tend to unseat the plug, and by reason of this the expensive and troublesome wiring of the corks may be dispensed with, while at the same time the bottle may be most
 30 conveniently uncorked and its contents withdrawn.

I am aware that stoppers in the shape of faucets have before been applied to bottles, as instanced in many forms of effervescent-water
 35 bottles; but in all previously-existing forms of which I am aware the faucet is located within a cork, which is secured within the ordinary mouth of the bottle and exposed to the direct action of the internal pressure, necessitating the construction of a complete faucet and the adoption of means more or less expensive for holding the cork in proper place.
 40

I am aware that bottles have before been provided with faucet stoppers or plugs, and
 45 that such a plug has been held to its seat by a spiral spring and a screw-nut, after the man-

ner of a common faucet. I therefore do not broadly claim providing a bottle-neck with a faucet-plug held to its seat by a spring.

My invention differs from the above in that 50 I dispense with a screw-thread on the plug, and with a nut, washer, and spiral spring, and by the aid of a notch in the head of my plug am enabled to use a simple and inexpensive gum spring, which, while performing all 55 the necessary functions of the combined screw-nut, washer, and metallic spring, possesses the additional advantages of ready detachment and application in case it is desired to remove and replace the stopper, and may be made to 60 perform the novel function of holding the plug shut and automatically turning it back to its closed position after it has been opened.

To these old forms I desire it understood that I make no claim; but, 65

Having now fully described my invention, what I do claim as new, and desire to secure by Letters Patent, is—

1. A bottle-neck having a continuous passage through it which is open at its ends and 70 is apertured transversely, in combination with the rotatable stopper detachably secured in the transverse aperture of the bottle-neck, and having a passage communicating with the neck-passage, and extending thence in a direction to discharge the contents at a right angle 75 to and through the bottle-neck.

2. The combination of the bottle A, transverse rotatable apertured plug B, constructed with a notched head, and the elastic retaining- 80 band f, encircling the neck and engaging in the notch of the plug B to retain the latter within its seat, as and for the purposes set forth.

In testimony that I claim the foregoing I 85 have hereunto set my hand in the presence of two witnesses.

HENRY C. JOHNSON.

Witnesses:

HENRY A. LOCKWOOD,
 BASIL M. BRODIE.