F. J. SEYBOLD.
Bottle-Stopper.

No. 206,269. Patented July 23, 1878.

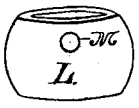


Fig. 5

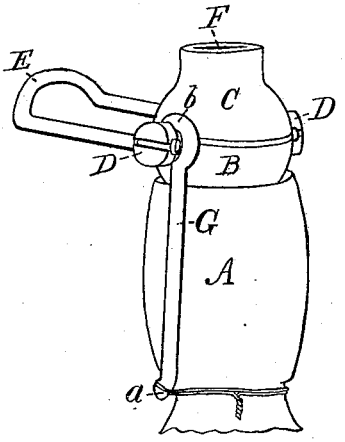


Fig. 1

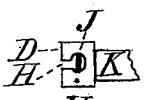


Fig. 6.

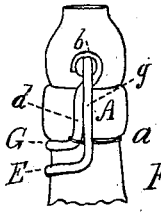


Fig 9

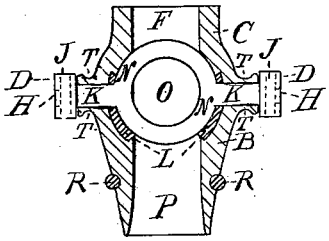


Fig. 2

Fig. 3

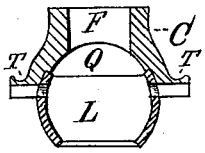
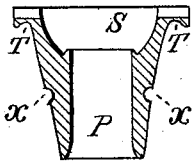


Fig. 4



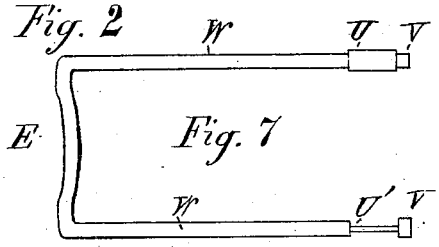


Fig. 7

Fig. 8

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FREDERICK J. SEYBOLD, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **206,269**, dated July 23, 1878; application filed March 19, 1878.

To all whom it may concern:

Be it known that I, FREDERICK J. SEYBOLD, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Bottle-Stoppers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, the same letters designating the same parts in the different figures of the drawings.

Figure 1 is a perspective view of a bottle-neck, with my improved stopper and fastener attached thereto.

A is the bottle neck or head. B C is a tube or case, of any material, flexible or non-flexible, attached to the mouth of a bottle or other receptacle. D D are pintles, attached to or forming part of a revoluble stopple in the tube or case B C. E is a portion of a looped or bail lever, attached to the pintle-heads D D, by which the stopple, within the tube or case, is revolved in its place. F is the portion of the filling and discharging aperture of the tube or case, above the stopple in the same. G is the portion of the neck-wire visible on one side of the receptacle. *a* is the tying-wire by which the neck-wire is secured to the receptacle-neck, and *b* is one of the hooks formed on the neck-wire, by which the stopper is held to the mouth of the receptacle.

Fig. 2 is a vertical section of the stopper, giving an interior view thereof.

H H are slots in the ends of the pintle-heads, opening into perforations J J through the pintles, for the reception of the ends of the looped or bail lever, by which the pintles are turned. K K are the pintles, passing through the sides of the tube or case B C, and attached to or forming part of the revoluble stopple N. O is an aperture through the stopple N, for the passage of the contents of the receptacle. (Shown here in a closed position.) L is a jacket or inner part of the outer case, B C, flexible or non-flexible, intervening between the stopple N and the sides of the tube or case B C, through which jacket pass the pintles K K. P is the portion of the aperture in the tube or case B C below the stopple N. R R is a flexible ring around that portion of the tube or case B C within the mouth of the receptacle when the portion B is so inserted, to secure a liquid and gas tight fit of the part. T T are pintle-projections on two sides of the tube or case B C, over the pintles K K or otherwise, upon which projections the hooks of the neck-wire rest and hold the two parts B C together, and both down upon or within the mouth of the receptacle.

Fig. 3 is a vertical sectional view of the upper portion of the stopper, showing a section of the jacket L and a portion, Q, of the cavity occupied by the revoluble stopple N.

It will be seen by a close inspection of these parts, in relation to each other, that it is the design for the stopple N to work tightly in the jacket L and loosely in the cavity Q, whence the greater proportionate capacity of the cavity Q, as shown in the drawings.

Fig. 4 is a sectional view of the lower part of the stopper, showing at S a portion of the cavity or recess in the tube or case B C, in which the jacket L is placed, to keep it from sliding with the revoluble stopple, to which end it will be seenin Figs. 3 and 4. Shoulders are formed in the material of the tube or case B C, against which the jacket may rest. This Fig. 4 also shows the groove *x x* around the lower part of the tube or case B C, in which, when the case B C is non-flexible, is placed the rubber or other flexible ring. (Shown at R R, Fig. 2.)

Fig. 5 is a perspective side and top view of the jacket L, showing one of the perforations, M, for the passage of the pintles K K. Fig. 6 is an enlarged and isolated view of a pintle-head, D, showing a slot, H, and perforation J, for the reception of an end of the looped or bail lever by which the pintled stopper is operated.

Fig. 7 is a full side view of the looped or bail lever, particularly adapted to operating the stopper. W W are the shafts of the lever, and E represents a semicircular or other conformation to the shape of the receptacle, so that when the receptacle is closed and that end of the lever is down it will closely fit the receptacle, for convenience and safety in handling, shipping, &c. The part U and the part U′ each has a diameter as shown at U, and a diameter as shown at U′, with the plane of their greater diameter at right angles to each other, and

each is constructed with the head V, with the line of its greatest diameter at right angles to the line of the greatest diameter of the part U and the part U′, respectively. In attaching the lever to the pintles K K, as shown in Fig. 2, I pass the part U′ edgewise through the slot H into the perforation J, and then turn the lever one-quarter round over the stopper, which will bring the long diameter of the part U′, as shown at U, across the slot H, preventing its passing out of the slot, and the part U edgewise opposite the slot H in the other pintle K. I then spring the part U through the other slot H, and, with a pair of pinchers or otherwise, twist the part one-quarter round or so, until it stands in the perforation with its longest diameter or widest surface across the slot H, through which, as in the other case, it cannot pass. This construction and arrangement of these parts enables me to dispense with riveting the ends of the lever, or other troublesome and comparatively expensive processes, which take time, and may endanger, in some way, the different parts of the stopper by necessary hammering, &c., and also enables me to cast the pintles K with the perforation J and the slot H completely therein, by which process, also, much time and, consequently, expense is saved in the manufacture of the parts.

Fig. 8 is a top view of one of the projections T T. Y is a longitudinal slot in the projection, in which a plug, Z, of a greater vertical diameter than the depth of the slot, or otherwise projecting above the orifice of the slot, may be placed under the hook of the neck-wire, for the purpose of adjusting the stopper to any degree of tightness, and especially for tightening the stopper in case of its becoming loose from long service, &c.

Fig. 9 is a side view of the stopper on a bottle-neck, showing how, when the receptacle is closed, the part *g* of the looped or bail lever is sprung behind the part *d* of the neck-wire on each side of the receptacle, for the greater security of the fastening, the distance between the two shafts of the lever at these points being somewhat less than the outside distance between the two shafts of the neck-wire, and the lever and the neck-wire, one or both, being made preferably of hard wire or other elastic material.

The tube or case B C and jacket L may be of any material, flexible or non-flexible, or part flexible and part non-flexible. The case B C is originally made in two parts—to wit, parts B and C, forming the outer case, with part L, the inner jacket or lining, filling the recess S, made for it in the two other parts, breaking the joint between these two other parts, and affording a jacket for the revoluble stopple N. When this lining or jacket L and the revoluble stopple N are placed in position in the cavity or recess S in part B, the two parts B and C are united together by their mutually-lapping joint, or in any other obvious or desired manner, the upper part, C, when in position on the receptacle, being held down upon its fellow, B, by projections T T from the former, upon which rest the hooks *b* of the neck-wire G.

As is readily seen by the drawings, when the revoluble stopple N is in a closed position its aperture O lies across the aperture F P of the tube or case, with its ends or orifices sealed by the walls or sides of the jacket L; and when in an open position, its aperture O is in a line with the aperture of the surrounding tube or case and the neck of the receptacle. The revoluble stopple N, too, may be of any material, flexible or non-flexible, the jacket L being flexible when the material of the outside case and the stopple, one or both, are non-flexible, and flexible or non-flexible when the material of the outside case and the stopple are both flexible. The function of this lining or jacket L, as has been said, is to securely cover and break the joint between the co-parts B C, and also secure a perfectly liquid and gas tight operation of the revoluble stopple N.

The revoluble stopple N and its cavity in the tube or case B C may be of any suitable shape desired, as spherical, cylindrical, oval, spheroidal, ellipsoidal, cylindroidal, ovoidal, or any other suitable shape desired.

The part B of case B C may be flexible, while the part C is at the same time non-flexible; or the part B may be non-flexible, while the part C is at the same time flexible. When either of these parts is flexible the inner lining or jacket can be easily dispensed with.

What I claim as new and as my invention, and desire to secure by Letters Patent, in a stopper and fastener for bottles and other receptacles, is—

1. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, having filling and discharge aperture F P, the part B being adapted to fit the mouth of a receptacle, and the parts having pintle-projections T T, whereby they may be held on a receptacle by a neck-fastening having suitable bearings therefor, as and for the purpose set forth.

2. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, constructed in two parts, B and C, one of which parts is adapted to fit the mouth of a receptacle, and having filling and discharging aperture F P, pintle-projections T T, whereby it may be held on a receptacle by the bearings of a neck-fastening, and cavity or recess S, in which a lining may rest, as and for the purpose set forth.

3. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit the mouth of a receptacle, and having filling and discharging aperture F P, pintle-projections T T, whereby it may be held on a receptacle by the bearing of a neck-fastening, and a cavity or recess, S, in combination with the inner lining or jacket L, having pintle-apertures M, as and for the purpose set forth.

4. The flexible or non-flexible rotary stopple

N, having filling and discharging aperture O, and pintles K K, with heads D D, having inletting-slots H H, and apertures J J for the lever, as and for the purpose set forth.

5. The flexible or non-flexible lining or jacket L, having perforations U for the pintles, as and for the purpose set forth.

6. The looped or bail lever W W, having parts U V at each end and in planes at right angles to each other, as and for the purpose set forth.

7. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit the mouth of a receptacle, and having filling and discharging aperture F P, pintle-projections T T, in combination with a rotary stopple having pintles, as and for the purpose set forth.

8. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having filling and discharging aperture F P, pintle-projections T T, cavity or recess S, and inner lining or jacket L, having pintle-apertures M, in combination with a rotary stopple having pintles, as and for the purpose set forth.

9. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit the mouth of a receptacle, and having a filling and discharging aperture F P, pintle-projections T T, cavity or recess S, and an inner lining or jacket, L, having pintle-apertures M, in combination with a rotary stopple having pintles and lever E W W for revolving the stopples, as and for the purpose set forth.

10. A flexible or non-flexible rotary stopple, having aperture O and pintles K K, with heads D D, having lever-apertures J J and inletting-slots H H, in combination with the lever W W, having parts U V at each end, as and for the purpose set forth.

11. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having filling and discharging aperture F P, and pintle-projections T T, in combination with a neck-fastening, which holds the parts together and to a receptacle, as and for the purpose set forth.

12. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having a filling and discharging aperture, F P, and pintle-projections T T, having recess Y, in combination with a neck-fastening having bearings *b* and the adjusting-plug Z, as and for the purpose set forth.

13. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having filling and discharging aperture F P, pintle-projections T T, with recess Y, cavity or recess S, and inner lining or jacket L, having pintle-apertures M, and a rotary stopple having pintles, in combination with a neck-fastening having bearings *b* and the adjusting-plug Z, as and for the purpose set forth.

14. The bail-lever W W, with parts U V at each end, in combination with stopple N, having pintles K K, with heads D D, having slots H H and apertures J J, as and for the purpose set forth.

15. The combination of a neck-fastening, G, having standards, and a pivotal bail-lever, W W, having sides or shafts, there being a greater breadth between standards of the neck-fastening than between the two shafts of the lever, whereby, when the lever is sprung past the neck-fastening, it is locked or held there by the neck-fastening, as and for the purpose set forth.

16. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, C, and having filling and discharging aperture F P, and pintle-projections T T, in combination with a rotary stopple, having pintles, a jacket, L, having pintle-apertures M, and a neck-fastening for holding the parts together and to a receptacle-mouth, as and for the purpose set forth.

17. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having filling and discharging aperture F P, and pintle-projections T T, in combination with a rotary stopple, having pintles, a jacket, L, having pintle-apertures M, a neck-fastening for holding the parts together and to a receptacle, and a lever, W W, as and for the purpose set forth.

18. A flexible or non-flexible, or partly flexible and partly non-flexible, stopple-case, made in two parts, B and C, one of which is adapted to fit a receptacle-mouth, and having filling and discharging aperture F P, and pintle-projections T T, with slot Y, in combination with a rotary stopple, having pintles, a jacket, L, having pintle-apertures M, a neck-fastening having bearings, suitable means for revolving the stopple, and the adjusting-plug Z, as and for the purpose set forth.

19. A flexible or non-flexible rotary stopple, having pintles and filling and discharging aperture, in combination with the lining or jacket L, having pintle-apertures M, as and for the purpose set forth.

FREDERICK J. SEYBOLD.

Witnesses:
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LURA MCNALL.