

F. J. SEYBOLD.

Stopper and Stopper-Fastener.

No. 206,271.

Patented July 23, 1878.

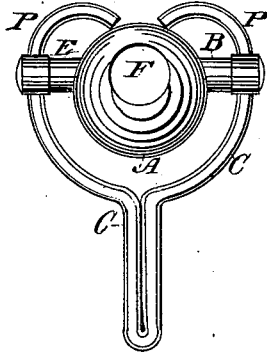


Fig. 1.

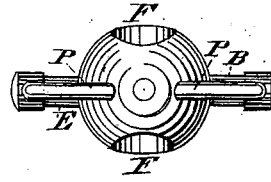


Fig. 2.

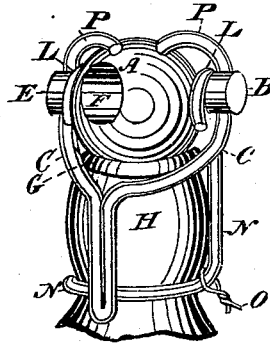


Fig. 3.

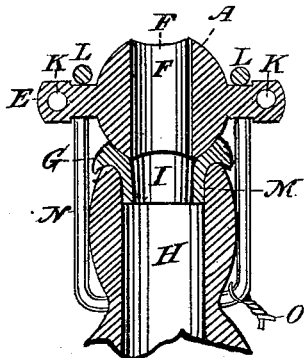


Fig. 4.

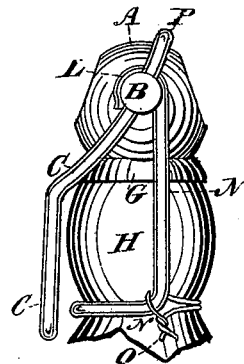


Fig. 5.

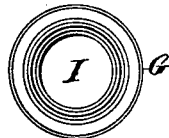


Fig. 8.

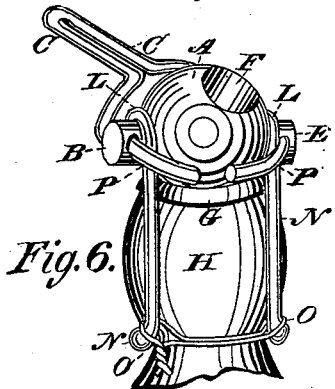


Fig. 6.



Fig. 9.

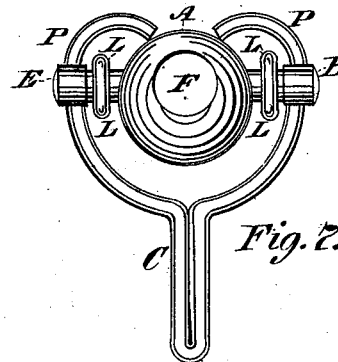


Fig. 7.

Witnesses:

William J. Brooks
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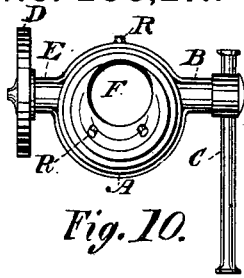


Fig. 10.

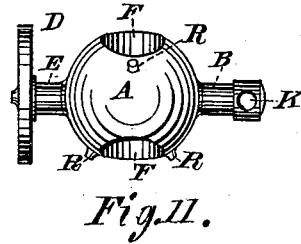


Fig. 11.

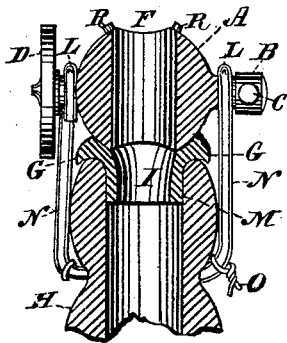


Fig. 13.

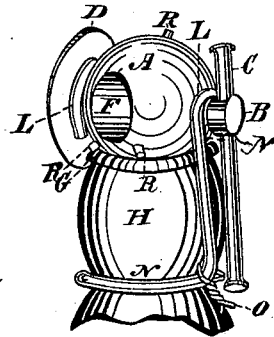


Fig. 12.

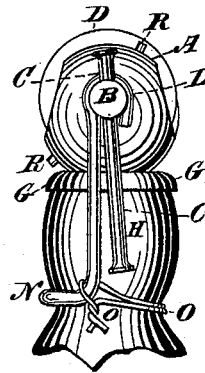


Fig. 14.

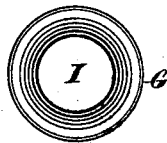


Fig. 17.

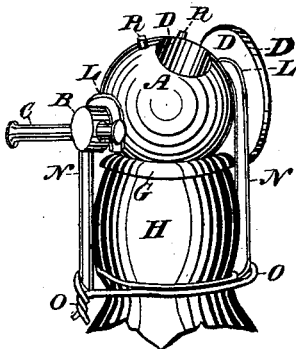


Fig. 15.



Fig. 18.

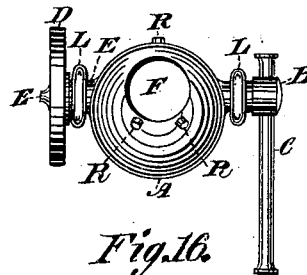


Fig. 16.

Witnesses:
William J. Brooke
Julius J. Meyer

Inventor.
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UNITED STATES PATENT OFFICE.

FREDERICK J. SEYBOLD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN STOPPERS AND STOPPER-FASTENERS.

Specification forming part of Letters Patent No. 206,271, dated July 23, 1878; application filed September 15, 1877.

To all whom it may concern:

Be it known that I, FREDERICK J. SEYBOLD, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Stoppers and Stopper-Fasteners, which improvement is fully set forth in the following specification and accompanying drawing.

My invention relates to that class of articles denominated "stoppers and stopper-fasteners." It may be used on bottles, cans, jars, flasks, and other similar receptacles with equal facility.

It consists, in a general way, of a sphere or spheroid having a cam-action, of metal or other material, (shown as A in the different figures of the drawings,) having a filling and discharging aperture, and resting within the corresponding concave flange of an open rubber or other flexible gasket, G I M, in the mouth of the bottle or other receptacle. This sphere or spheroid is formed at two sides into or attached to journals B E, the axis of which stands properly at right angles, or thereabout, with the aperture F. By these journals B E and the hooks L L extending up from and forming part of the semicircular neck-wire N, having tying-wire O, the sphere or spheroid A is held down on the corresponding concave flange of the gasket G I M in the mouth of the bottle or other receptacle, and is revolved in its place by means of either the looped lever C, the single lever C', or the thumb-wheel D, the latter two being shown in different figures of the second sheet of drawings, this being the main purpose of that sheet of the drawings.

When the bottle or other receptacle is closed, the aperture F in the sphere or spheroid lies across the mouth of the bottle or other receptacle, with the operating looped lever C, when this form of the lever is used, lying down against the neck or side of the bottle or other receptacle, as shown in Fig. 3, first sheet of drawings.

When the bottle or other receptacle is at a full open, the aperture F stands in a line with the opening I through the gasket G I M, and with the throat of the bottle or other receptacle, H, as shown in Fig. 4, with the operating looped lever C in a raised position, as in

a manner shown in Fig. 6. The outward-extending flange of the gasket is concave on both its under and upper surface, which is apparent in Figs. 9 and 4 of the drawings.

While it is not absolutely necessary that it should be so, the center of the filling and discharging aperture may be advantageously placed to one side of the center of the sphere or spheroid A, and that side the upper side, when the receptacle is closed, as shown in Figs. 2 and 5, so that when the receptacle is closed the longer side or fuller lobe or wall of the sphere or spheroid may more securely cover and stop the orifice in the gasket and receptacle than the same part would do if the aperture of the sphere or spheroid were not so located.

So, for some ordinary purposes, the axis of the journals B E, upon which the sphere or spheroid is revolved, may be exactly coincident with the center of the sphere or spheroid, as shown in Figs. 3, 4, and 6; but in the case of aerated or gaseous liquids, or other effervescent or expansive contents of the receptacle, the axis of revolution should be set to one side of the center of the sphere or spheroid, and to the same side as the aperture F—that is, the upper side at a close of the receptacle—so that as the stopper is rotated to a closed position it tightens downward (as it turns) upon the gasket or other seat by the intervention of the longer and fuller side of the stopper between the gasket or other seat and the points of contact of the journals B E on the hooks L L, or their equivalents, the center of the sphere or spheroid, in this position of the stopper, lying between its seat in the receptacle-neck and the axis of the journals B E, constituting what may be called a "cam sphere or spheroid."

By means of this construction of the sphere or spheroid, it will readily be seen, any desired tightness of the stopper may be secured; but whether the longitudinal axis of the filling and discharging aperture be or be not coincident with the diameter of the sphere, in either case there should be an eccentric, either on the sphere or spheroid or elsewhere, to produce the binding effect.

The cam principle in the stopper may be produced, if desired in any case, by a projection or

protuberance on the proper side of the journals B E.

The looped lever C is particularly useful and desirable for producing the force required in cam-action of the stopper. The projecting ends P P of this lever are so formed as to catch against the shafts of the hooks L L, or against the gasket-flange G, or the neck of the bottle or other receptacle, and stop the revolution of the sphere or spheroid at a full open, while the revolution the other way is stopped at a full close by the looped end of the lever coming down against the neck or side of the receptacle.

In case of the other forms of leverage or operation the stoppages in the revolution of the sphere or spheroid may be made, if not accurately enough by the volition of the operator, then by nibs or projections on the surface of the sphere or spheroid, as shown by R R R in Figs. 2, 3, 7, &c., on the second sheet of the drawings.

As is obvious, the mode of attachment and operation of the looped lever C may be in a manner reversed from that already described, so as to produce an open of the receptacle by the lever being lowered and a close by its being raised.

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. The cam sphere or spheroid A, having aperture F and journals B E, as and for the purpose set forth.
2. The semicircular neck-wire N, having the upward-extending hooks L L and tying-wire O, as and for the purpose set forth.
3. The cam sphere or spheroid A, having filling and discharging aperture, in combination with the neck-wire N O L L, as and for the purpose set forth.
4. The cam sphere or spheroid A, having filling and discharging aperture, in combination with suitable means, substantially as stated, for connecting the sphere or spheroid with the receptacle, as and for the purpose set forth.
5. The looped lever C, having projecting ends P P attached to or formed thereon, as and for the purpose set forth.
6. The cam sphere or spheroid A, constructed with the filling and discharging aperture, in combination with the tubular flanged gasket, as and for the purpose set forth.
7. The cam sphere or spheroid A, having filling and discharging aperture, in combination with the neck-wire N O L L and a tubular flanged gasket, as and for the purpose set forth.
8. The looped lever C, constructed with one

or more projections, P, in combination with a rotating stopper, as and for the purpose set forth.

9. The combination of the looped lever C with the cam sphere or spheroid A, having a filling and discharging aperture, and the neck-wire N O L L, as and for the purpose set forth.

10. The combination of the looped lever C with the cam sphere or spheroid A, having filling and discharging aperture, and the tubular flanged gasket, with any suitable means for operatively connecting them to a receptacle, as and for the purpose set forth.

11. The combination of the looped lever C with the cam sphere or spheroid A, having a filling and discharging aperture, the neck-wire N O L L, and the tubular flanged gasket, as and for the purpose set forth.

12. A sphere or spheroidal stopper having a filling and discharging aperture whose longitudinal axis passes through the sphere or spheroid to one side of the center of the same, as and for the purpose set forth.

13. An open yielding gasket having a body adapted to fit into a receptacle-mouth, and an outward flange concave on its upper and under surface, as and for the purpose set forth.

14. An open gasket having a tubular portion adapted to fit a bottle mouth and neck, and provided with a flange on its upper end, the flange being concave on its under and upper surface, and adapted to fit and support a spherical stopper; in combination with a bottle, as and for the purpose set forth.

15. The combination of an open gasket, a bottle, and a pintled rotary spherical stopper, having a passage through the same, through which the bottle may be filled or emptied, as and for the purpose set forth.

16. An open yielding gasket having a body adapted to fit into a receptacle-mouth, and having an outward flange concave on its upper and under surface, and a rotary journaled stopper having a filling and discharging aperture, in combination with suitable means for operatively securing them onto a receptacle-mouth, as and for the purpose set forth.

17. An open gasket having a body adapted to fit a receptacle-mouth, the body having at or near the top of the same a flange the contour of whose entire upper surface is a concave adapted to fit and support a spherical rotary stopper, as and for the purpose set forth.

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Witnesses:

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