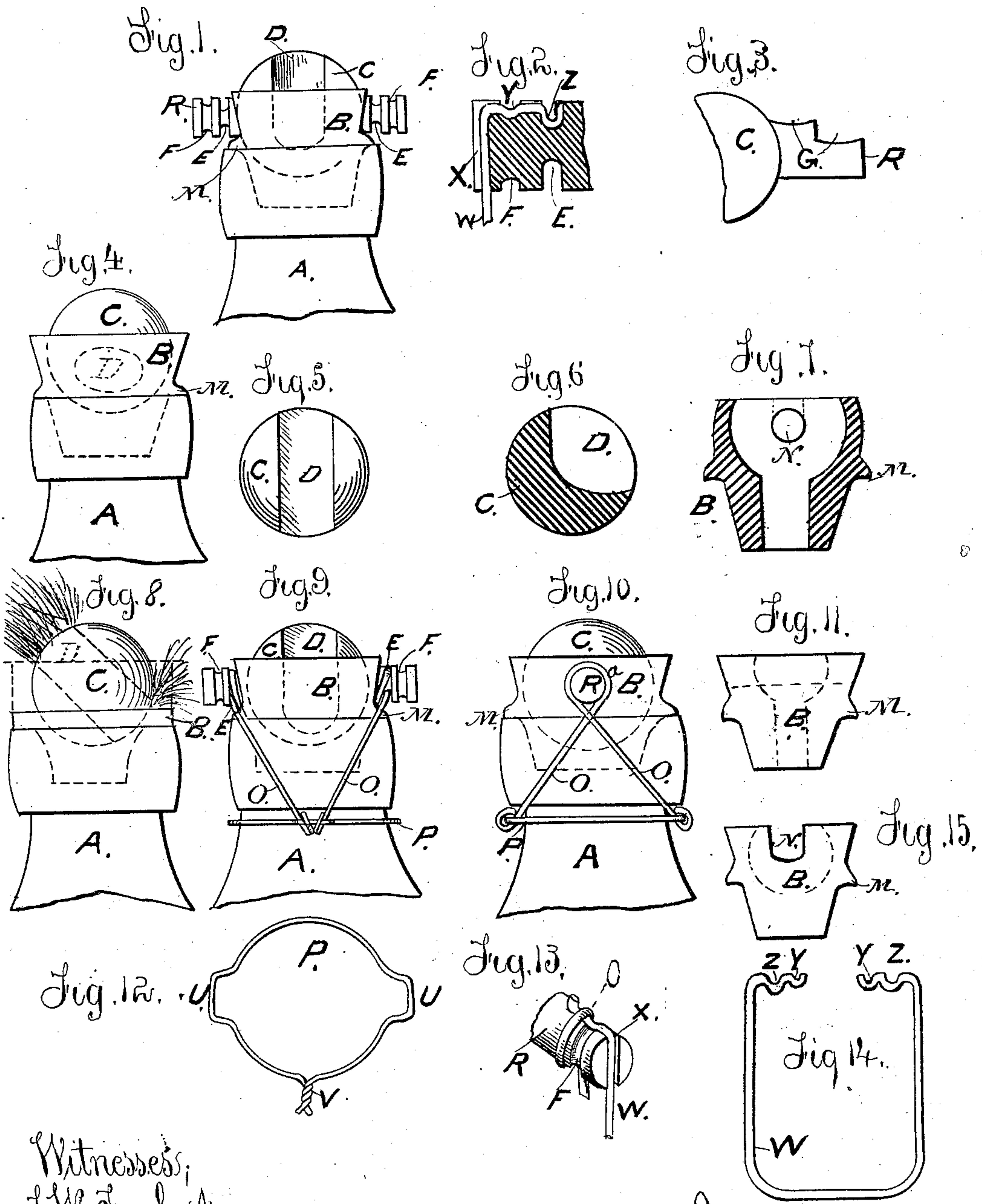


F. J. SEYBOLD.

Bottle-Stopper and Stopper-Fastener.

No. 206,492.

Patented July 30, 1878.



Witnesses;
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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN BOTTLE-STOPPERS AND STOPPER-FASTENERS.

Specification forming part of Letters Patent No. **206,492**, dated July 30, 1878; application filed May 22, 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.

My invention pertains to that class of articles denominated in a general way "bottle-stoppers," and more especially that class of bottle-stoppers employing a spherical or cylindrical shaped stopple, having pintles and a filling and discharging aperture, the stopple being secured on the mouth of a bottle with or without a gasket or packing resting between the stopple and the mouth of the bottle.

Figure 1 is a front view of my stopper on a bottle-mouth. Fig. 2 is a section of a pintle. Fig. 3 is a side view of a modification of a pintle with the part of a stopple attached. Fig. 4 is a side view. Fig. 5 is a top view of the stopple. Fig. 6 is a vertical section of the stopple. Fig. 7 is a vertical section of the gasket. Fig. 8 is an illustrative figure. Fig. 9 is a front view of my stopper. Fig. 10 is a side view of my stopper. Fig. 11 is a side view of the gasket. Fig. 12 is the neck-wire. Fig. 13 is the pintle, part of the binding-wire, and part of the operating-lever. Fig. 14 is the operating-lever. Fig. 15 is a modification of the gasket.

A is the bottle-neck. B is a gasket, and M is a flange on the same. N is an aperture or cut in the same, in which the pintle R rests. C is a spherical stopple. D is the filling and discharging passage. R is a pintle. E is a groove on the same. F is a groove on the same. G is a pintle, having a shoulder instead of a groove on the same. P is a neck-wire, having on its opposite sides outward detours U. V are twisted-together ends of the same. U are bends on the same. O are the tying-wires, for holding the stopple in place. Z and Y are bends or depressions in the ends of the bail-lever W. X is a slot in the end of the pintle R.

On each pintle R are two grooves, for the purpose of adjusting the stopple as it becomes loosened by wear, one of the grooves being deeper than the other one.

The wire O, when the stopple is first put together, is placed in the deeper groove E tightly, and when it loosens by wear the stopper is pushed in until the binding-wires O can be sprung into the shallower groove F, by which means it is tightened.

The ends of the bail-lever W are conformed in shape to these grooves, and rest in the same, with the tying-wire O resting over the ends of the lever W, holding it in place, as seen in Figs. 2 and 13. The standard of the lever resting in the slot in the end of the pintle enables the lever to turn the pintle and stopple.

The bend U affords lateral support to the ends of the binding-wires O, preventing them from sliding sidewise around the bottle.

The ends of the binding-wires O being attached to the neck-wire on opposite sides of the bottle, instead of at one point directly under the pintle, exercise the office of guys or braces, and prevent the stopper from being rolled off the bottle when it is meant to be rotated; also prevent its being twisted around in its seat.

The filling and discharging passage of this stopple consists in a cut into the circumference of the stopple of such conformation that one end of the cut being rotated into a line with the aperture into the bottle-neck, the liquid finds its way out through this cut; though, if desired, instead of a cut into the circumference, an aperture through the body of the stopple may be made, which, however, alone and in itself, I do not claim. In either case, when this aperture or the cut is employed, the turning of the same across the mouth of the bottle closes the same.

The gasket is composed of flexible or other material, and has a flange on the same, which rests on the top of the bottle to prevent the gasket from turning, and has extending upward from this flange a wall reaching up to such a height as to entirely cover one end of the aperture in the stopper when the perforation is used, so that the liquid may pass out in but one direction as the stopple rotates to an open position.

If this gasket-wall were short, as shown by the full line in Fig. 8, the liquid would fly out in two directions as the stopper was rotated in an open position, as shown in Fig. 8; but

the gasket being made to the height of the dotted line in Fig. 8, and as shown by the full line in Fig. 4 and other figures, the liquid can only pass out of the aperture in one and the desired direction.

An aperture may be made in the gasket, as shown at N, Fig. 7, through which the pintle may be forced, or a cut may be made, as shown at N, Fig. 15, whichever may be desired, either mode allowing the wall of the gasket to reach high enough to govern the flow of the liquid, as before mentioned.

In place of the grooves E and F, of different depths, on the pintle R, as shown in Figs. 1, 2, &c., a simple shoulder may be made, as shown in Fig. 3, by which means adjustability of the stopple is obtained, in this latter case the binding-wire being placed at first, when everything is new, on the portion of the pintle of smallest diameter, and when the stopple loosens from wear or otherwise the binding-wire is then placed on the portion of the pintle of greater diameter.

The tying-wires O are constructed with a simple hook or protuberance where they are attached to the neck-wire, and have a single intermediate coil, *a*, where they pass around the pintle.

When the stopple is made of flexible material the gasket can be dispensed with in certain cases, if so desired.

When desired, the stopple can be constructed on the cam principle, or attached to the bottle with the cam action, so that when turned to a closed position the stopple tightens downward onto the bottle or on the gasket. This cam principle can be arrived at either by placing the central longitudinal axis of the pintles of the stopple to one side of the central longitudinal axis of the stopple, or by raising a protuberance on that side of the pintle that will be uppermost when the stopple is closed, or by cutting a groove on that side of the pintle that will be uppermost when the stopple is open, or by making the grooves now cut in the pintle for adjustability shallower at the point that will be uppermost when the stopple is closed than at other points, or in any other suitable way desired.

What I claim as new, as my invention, and desire to secure by Letters Patent, is—

1. A spherical stopper having pintles, and having a filling and discharging passage, which consists of a recess in one side of the stopple, cutting away a portion of the circumference, as and for the purpose set forth.

2. The pintles R, each pintle being constructed with two or more grooves cut on the circum-

ference of the same, the grooves being of different depths for the purpose of giving adjustability to the pintle as regards tightness in binding the same to the mouth of a receptacle, as and for the purpose set forth.

3. The bail-lever W, constructed with the grooves or indentations Y and Z, as and for the purpose set forth.

4. The binding-wire O, constructed with a bend or protuberance at each end, and with an intermediate coil where the wire attaches to the pintle, as and for the purpose set forth.

5. The gasket B, constructed with walls of sufficient height to entirely cover one end of the filling and discharging aperture, so as to prevent the liquid from passing out of the descending end of the aperture, the gasket having the opening N and the flange M, as and for the purpose set forth.

6. The gasket B, constructed with its side walls reaching up to the top of the pintles, or thereabout, but not so high as to the top of the sphere or stopper, and with the opening N, in combination with a pintled stopper, having the passage D cut into the circumference of the same, as and for the purpose set forth.

7. A stopper having pintles, in combination with the binding-wires O, constructed with a simple hook or protuberance where they are attached to the neck-wire, and having a coil where they pass around the pintle, and with a neck-wire, as and for the purpose set forth.

8. The combination of a stopper having pintles, binding-wires O, constructed with a simple hook or protuberance where they are attached to the neck-wire, and having a coil where they pass around the pintle, a neck-wire having detours, and bail-lever W, as and for the purpose set forth.

9. A pintled stopper attached operatively to a bottle by means of neck-fastenings, the end bearings of each fastening being on opposite, or nearly opposite, sides of the bottle-neck at points on the bottle-neck ninety degrees, or thereabout, from a vertical line through the pintles, as and for the purpose set forth.

10. The combination of a pintled stopper, binding-wires O, constructed with a simple hook or protuberance where they are attached to the neck-wire, and having a coil where they pass around the pintle, and a neck-wire, as and for the purpose set forth.

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Witnesses:

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