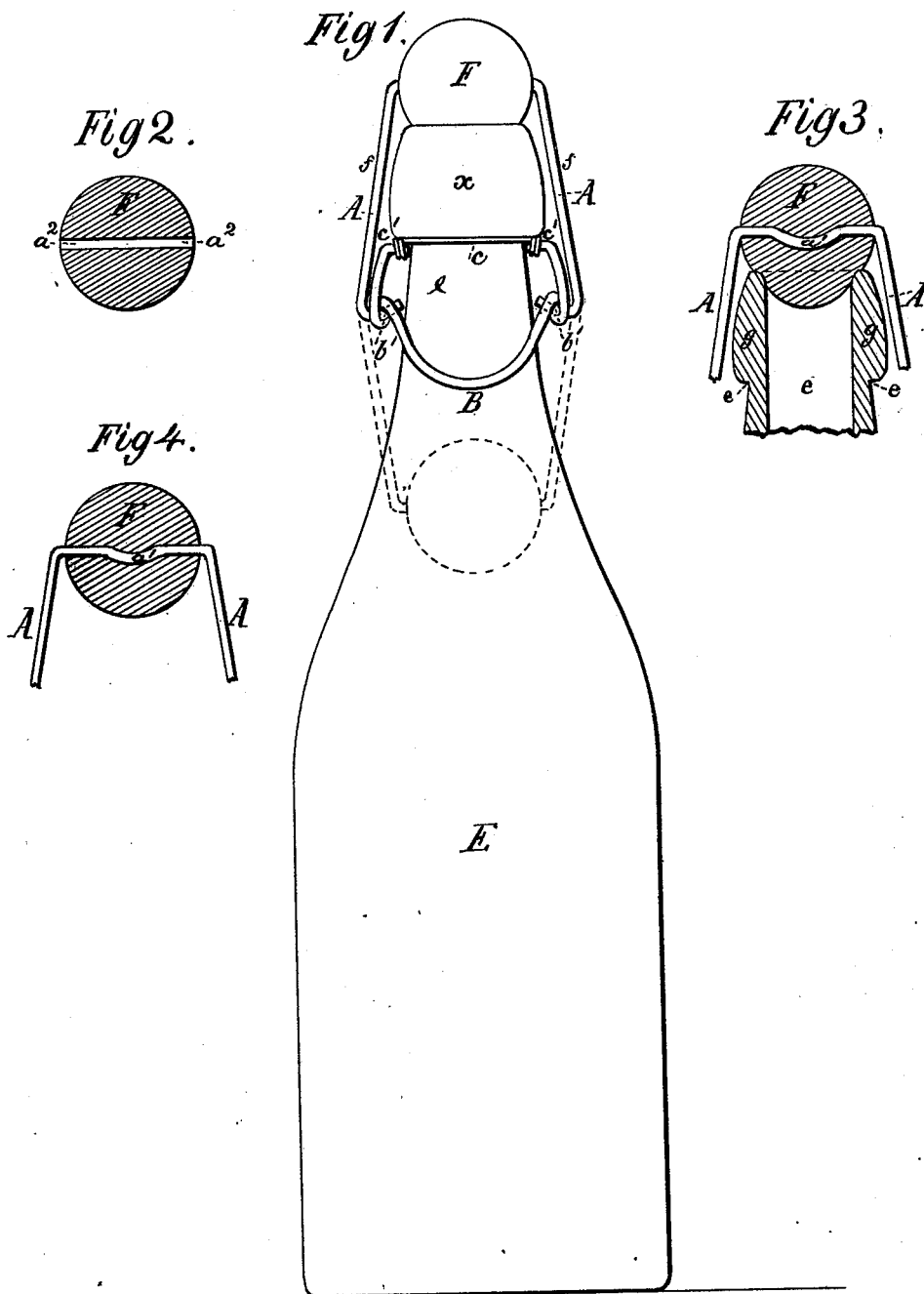


L. La VALLEY.
Bottle Stopper and Fastening.

No. 214,927.

Patented April 29, 1879.



Witnesses:
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UNITED STATES PATENT OFFICE.

LEROY LA VALLEY, OF DELHI, NEW YORK.

IMPROVEMENT IN BOTTLE-STOPPER AND FASTENING.

Specification forming part of Letters Patent No. **214,927**, dated April 29, 1879; application filed March 6, 1879.

To all whom it may concern:

Be it known that I, LEROY LA VALLEY, of Delhi, in the county of Delaware and State of New York, have invented a new and useful Improvement in Bottle-Stopper and Fastening; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and the letters of reference marked thereon.

My invention relates to an improved bottle-stopper, and also to the fastening for holding the same in place when a bottle is "corked" therewith; and by my invention bottles may be closed in a very convenient, quick, and secure manner.

In the drawings, Figure 1 shows, in solid lines, my improved stopper and fastening applied to a bottle, and as the same will appear when the bottle is closed or corked thereby. Fig. 2 is a central vertical section of the stopper; and Fig. 3, a sectional view of Fig. 1 in a vertical plane through the center of the stopper and a portion of its carrying-yoke. Fig. 4 is a detail view, showing that the rotundity of the stopper is not affected by the bend in the yoke at or near the center of the stopper before the stopper is brought into action.

In the drawings, E represents a bottle, to the neck *e* of which is applied a tightly-twisted wire, *c*, which carries in its eyes *c'* a swinging lever-frame, B, of wire of suitable strength and bent as shown. A stopper-carrying yoke, A, of like wire, is pivoted with its ends in eyes *b'* of the lever-frame B, which eyes are bent in the sides of the lever-frame at such a distance from the wire band *c* that by the leverage imparted by the downward-swinging frame B the yoke A will be brought down toward the mouth of the bottle, so as to firmly and hermetically close the mouth of the bottle with an elastic stopper, F, applied to the top part of the yoke A, as shown.

This stopper F, I make of elastic material, and preferably of india-rubber. I make it of spherical form or round, and of a diameter greater than the mouth of the bottle, and with a central horizontal perforation through it, as at *a*² in Fig. 2. The stopper thus constructed I then place upon the wire which is to constitute the stopper-carrying yoke A after the

same is connected with the lever-frame B, and that portion of said wire upon which the stopper becomes seated for use, as shown in Figs. 3 and 4, I make with a bend or depressed portion, *a*¹, substantially as shown in said figures. This depression *a*¹ in the yoke A, while it allows the stopper F to be rotated thereon in the act of closing the mouth of the bottle, also serves to retain the stopper in its proper position upon the yoke, as shown, or, in other words, prevents sidewise displacement when the wire upon which the stopper is seated between the sides *ff* of the yoke is of a length greater than the diameter of the stopper.

When the stopper, in the act of closing the bottle, is forced down over the mouth of the bottle E, as shown in Figs. 1 and 3, the central point in the length of the bend *a*¹ will correspond with the center of the mouth of the bottle, and as the yoke A is drawn down by the lever-frame B the impact of the part *a*¹ and its pressure upon the interior of the stopper being considerably nearer to the mouth of the bottle than the true horizontal axis of the stopper causes the latter to be forced a greater distance and much more tightly into said mouth than would be the case were the yoke to be constructed without the bend *a*¹.

One great advantage in making the stopper F in the form of a sphere or round I will now state: If the carrying-yoke be thrown down from its position shown in solid lines in Fig. 1 to its position shown in dotted lines in said figure the bottle will be uncorked, and the lever-frame B and the stopper F and its carrying-yoke A will now be in a condition to be manipulated to effect a corking or closing of the mouth of the bottle.

To effect this the operator seizes the body of the bottle with his left hand, and with the fingers of his right hand placed in rear of and against the neck of the bottle, and with the thumb of his right hand in front of said neck and against the stopper, a gentle upward pressure of the thumb will throw up the carrying-yoke A, so as to cause the stopper to strike against the outer surface of the re-enforced or thick portion *g* of the neck of the bottle at a point, *x*, about midway of the length of said thick portion *g*. The pressure of the thumb being continued, and with greater force, causes

the ball or stopper F to tightly impinge against the outer surface of the part *g*, and roll upwardly thereon until finally the ball-stopper F, under compression from the yoke, mounts over the upper end of the bottle, and instantly thereafter, by expansion and by self-adjustment, becomes seated in its mouth. This act performed has now raised the lever-frame B, so as to cause it to stand outwardly from or measurably at right angles with the neck of the bottle, and the thumb of the right hand of the operator being now forcibly drawn down upon the lever-frame B compels it to again assume its position, as shown in solid lines in Fig. 1, thus drawing down the yoke A and forcing the rubber stopple into the mouth and neck of the bottle, as clearly signified in Fig. 3.

It will be seen that during the act of closing the bottle the ball F rotates against the outer surface of the part *g* and around that portion of the yoke A upon which it is placed, thus affording ease, facility, and unerring directness in its manipulation, while at the same time it automatically and self-adjustingly presents a proper sealing-surface into the mouth of the bottle, whether it be rotated more or less during the act of sealing or closing the bottle.

I believe I am the first person who has ever

used an elastic ball as a stopper for a bottle, the ball having only a single perforation, and such perforation through its horizontal axis, and occupied by a wire passed entirely through it for forcibly drawing such ball down into the mouth of the bottle in order to effect a sealing or closing of the bottle.

I would state that the normal rotundity of the stopper F, as shown in Fig. 4, remains unaffected by the bend *a'* of its carrying-yoke A, and that by the use of my invention I am enabled to effect the corking of a bottle with far greater security, ease, and rapidity than can be done with any of the devices for such purpose with which I am acquainted.

I am aware that a spherical stopper having a pouring-hole through it, and mounted on short journals of a carrying-yoke, is not new.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination of the elastic stopper F and yoke A, having a bend, as at *a'*, at or near the center of the stopper, substantially as and for the purpose described.

LEROY LA VALLEY.

In presence of—

RICHARD H. BARNER,
RANSOM A. GRANT.