P. R. Higley,

Stopper Fastener.

No. 15,005. Patented Nov. 8, 1861.

Fig. 1.

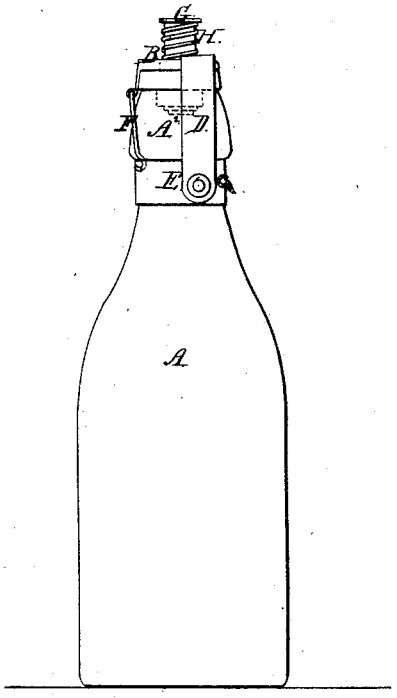


Fig. 2.

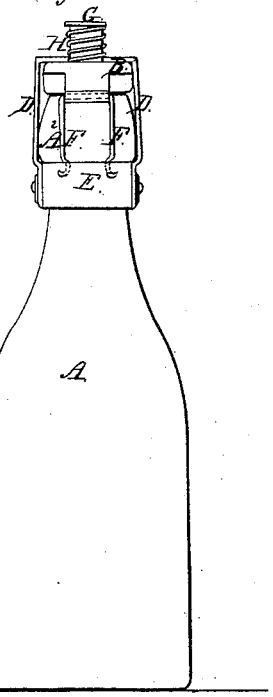
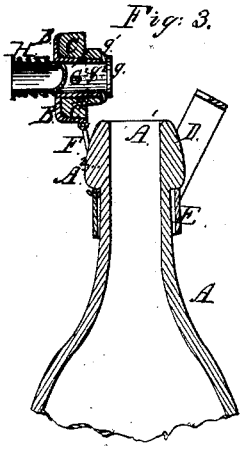


Fig. 3.



Witnesses;
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Inventor;
P. R. Higley,
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UNITED STATES PATENT OFFICE.

PETER R. HIGLEY, OF OSHAWA, CANADA WEST.

IMPROVED BOTTLE-STOPPER.

Specification forming part of Letters Patent No. **45,005**, dated November 8, 1864.

To all whom it may concern:

Be it known that I, PETER R. HIGLEY, of Oshawa, in the county of Ontario and Province of Canada West, have invented a new and useful Improvement in Bottle-Stoppers; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved bottle-stopper in use. Fig. 2 is a similar view, showing the stopper in a different position. Fig. 2 is a vertical section illustrating the valve, partly in elevation.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to adapt a bottle-stopper to constitute a valve to be opened in the act of filling, and closed automatically after the liquid has been introduced, and also to form a tight joint for the purpose of preventing the escape of the gaseous matter contained within the bottle, as will be hereinafter fully explained.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A may represent a bottle of any suitable form, to be filled with liquid under pressure.

B is a metallic cap, formed with a downwardly-projecting socket, *b*, around which is a packing, C, of gum-elastic or analogous material, adapted to fit within the mouth A′ and form a perfectly-tight joint to prevent the escape of the gases of the liquid contents.

The packing C is securely confined within the mouth A by a yoke or frame, D, pivoted to a collar, E, which encircles the neck of the bottle below the head A^2, the latter constituting a shoulder or bearing for said collar. The yoke D may be turned off of the cap B, so as to relieve the packing C, and permit the entire stopping contrivance to be withdrawn and supported at one side of the top, as shown in Fig. 3, for which purpose the cap B is hinged to the collar E by the double connecting-link F F. The socket *b*, being open at both ends, contains a vertically-sliding hollow cylinder, G, which is opened at top and closed at bottom by a disk, *g*, carrying a packing-ring, *g′*, which fits snugly between the flanged edge of the disk *g* and the lower end of the packing C, and of the socket *b* when the cylinder G is in its upper or normal position, it being thus held by a spiral spring, H, acting from the cap B against a flange on the upper end of said cylinder. Near the lower end of the cylinder G is an aperture, g^2, which may be caused to assume a position below the socket *b* by the depression of the cylinder, done in the act of filling, and when thus below the socket *b* the aperture g^2 throws the interior of the cylinder in communication with the interior of the bottle; hence while the stopper B C G is in the mouth of the bottle and secured therein by the yoke D, the bottle may be filled by simply depressing with the nozzle of the filling-instrument or otherwise the cylinder G, when the liquid being introduced into the cylinder flows into the bottle through the aperture g^2. When the bottle is filled, the cylinder G, being relieved of pressure, is thrown to its upper position by the spring H, and thus communication with the interior of the bottle is effectually closed.

This contrivance is cheap and easily constructed, and it is very advantageous as employed in connection with bottles to contain soda-water or other liquid which requires to be kept under pressure and without exposure to the atmosphere.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. A valve-stopper composed of a frame, B *b*, packing C, and cylinder G, the latter having an aperture, g^2, and adapted to slide within said frame, so as to open communication with the bottle, and pressed upward by a spiral spring, H, to close the same, subtantially as set forth.

2. The metallic frame B *b*, constructed as herein specified, and adapted for the application of an elastic packing, C.

3. In combination with a stopper constructed as herein described, the double link or hinge F F, and the yoke D, both being attached to the collar E, and employed in the manner and for the purposes specified.

The above specification of my improvement in bottle-stoppers signed this 22d day of August, 1864.

P. R. HIGLEY.

Witnesses:

EDWARD H. KNIGHT,

C. D. SMITH.