C. CRISTADORO.

VALVE-NOZZLES FOR BOTTLE-STOPPERS.

No. 189,611. Patented April 17, 1877.

fig. 3.

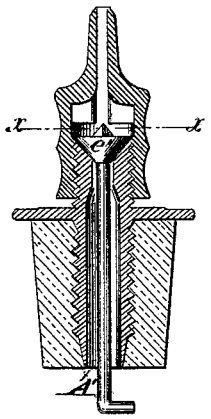


fig. 1.

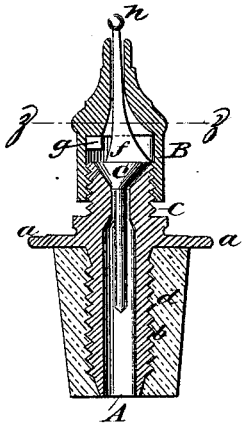


fig. 4.

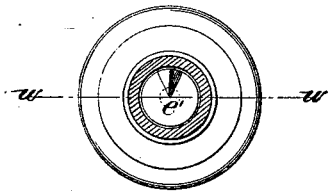
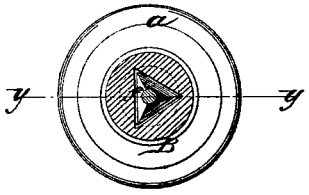


fig. 2.



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CHARLES CRISTADORO, OF NEW YORK, N. Y.

IMPROVEMENT IN VALVE-NOZZLES FOR BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **189,611**, dated April 17, 1877; application filed March 19, 1877.

To all whom it may concern:

Be it known that I, CHARLES CRISTADORO, of the city and county of New York, and State of New York, have invented a new and Improved Valve-Nozzle for Bottle-Stoppers, of which the following is a specification:

Figure 1 is a vertical section of my improved valved nozzle on line *y y* in Fig. 2. Fig. 2 is a transverse section on line *z z* in Fig. 1. Fig. 3 is a vertical section of a modified form of my improvement on line *w w* in Fig. 4, and Fig. 4 is a transverse section on line *x x* in Fig. 3.

My invention relates to certain improvements on the valved nozzle for bottle-stoppers shown and described in Letters Patent No. 182,082, granted to Elias B. Requa, September 12, 1876; and it consists in forming on the upper side of the valve a spindle, which extends through the nozzle, and is provided with a head outside of the nozzle, that retains the valve when the nozzle is removed from the stopper.

In the drawing, A is a tube, having the flange *a* and the threaded end *b c*, the latter being placed in a perforated cork, *d*. In the upper end of the tube A a seat is formed for the valve *e*. A nozzle, B, is screwed on the upper end of the tube A, and is provided with an aperture, the inner portion of which is made triangular to fit the base of the spindle *f*, that extends from the upper side of the valve through the nozzle. Lugs *g* are formed in the nozzle B, which strike the valve, and hold it to its seat when the nozzle is screwed down. A head, *h*, is formed on the outer end of the spindle *f*, the diameter of which is larger than the bore of the nozzle, and by which the valve is secured to the nozzle, so that it will not drop out or become lost when the nozzle is removed. The triangular form of the spindle *f* and the aperture of the nozzle insures the turning of the valve when the nozzle is screwed down, thereby making a tight joint between the valve and its seat. The modification shown in Fig. 3 consists in extending the stem of the valve *e'* below the lower end of the tube A', and bending it at right angles, as shown in the drawing, to prevent the valve from escaping from the tube. By loosening the nozzle B, the valve is released, so that when the bottle in which the stopper is placed is inverted and moved, jets of the liquid contained by the bottle may be thrown out.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The valve *e*, having the triangular spindle *f*, upon the end of which is formed a head, *h*, in combination with the nozzle B and tube A, substantially as herein shown and described.

CHARLES CRISTADORO.

Witnesses:

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