

(No Model.)

O. H. R. NIENABER.
BOTTLE STOPPER.

No. 547,497.

Patented Oct. 8, 1895.

Fig. 1.

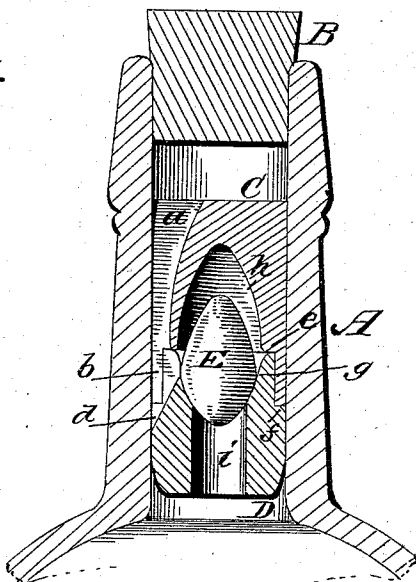


Fig. 2.

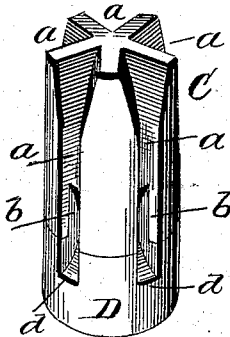
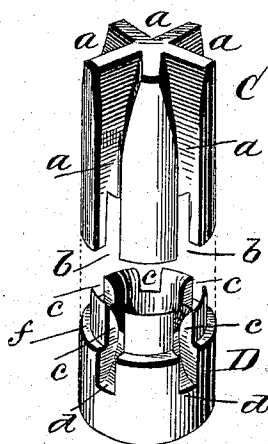


Fig. 3.



Witnesses
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per Chas. C. Fowler,
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UNITED STATES PATENT OFFICE.

OTTO H. R. NIENABER, OF RIDGEFIELD, NEW JERSEY.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 547,497, dated October 8, 1895.

Application filed July 2, 1895. Serial No. 554,733. (No model.)

To all whom it may concern:

Be it known that I, OTTO H. R. NIENABER, a citizen of the United States, residing at Ridgefield, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to that class of bottle-stoppers in which are provided one or more valves especially designed to prevent the fraudulent filling of bottles and other like vessels, thereby rendering it impossible to refill the same after they have been once emptied without breaking the vessel or destroying the stopper thereof.

The object of the invention is to provide a simple and effective stopper of the character above referred to, that will possess strength and durability, that will perfectly seal the opening in the neck of the bottle when in an upright position, and in many respects materially enhance the value of this class of stoppers and provide an absolute protection against refilling of the bottle by unscrupulous persons.

The invention consists of a bottle-stopper constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a sectional view showing the neck of an ordinary glass bottle, my improved stopper in position therein, and the ordinary cork stopper located above the same; Fig. 2, a perspective view showing the two sections of my improved stopper connected together ready to be inserted in the neck of the bottle; Fig. 3, a similar view showing the two sections of the stopper separated for the purpose of inserting the valve.

In the accompanying drawings, A represents the neck of an ordinary glass bottle, and B the usual cork stopper thereof, both of which may be of any preferred construction. Within the neck of the bottle is fitted my improved stopper, which consists of two detachable sections C D, of glass or any other preferred material found best adapted to the purpose, the stopper being of such diameter

as to tightly fit within the neck of the bottle a certain distance below the mouth thereof, so as to enable said mouth to be closed by the ordinary cork stopper, as shown. My improved stopper, however, may come flush, or nearly so, with the mouth of the neck A and the cork stopper B dispensed with, the mouth in such case being closed by any suitable means after the bottle has been filled and ready for the trade.

The upper section C of the stopper has radial conduits *a*, which increase in depth as they approach toward the upper end thereof, so as to give as great an opening as possible for the discharge of the liquid. It will be noticed that the conduits *a* increase in depth to almost half the diameter of the stopper or section C, thereby so increasing the flow of the liquid at this point as to enable it to be discharged uninterruptedly, the conduits also allowing the air to pass into the bottle as required.

The stopper-section C has openings *b* at the base of each conduit *a*, which extend lengthwise of said conduits and on line therewith, and when the two sections C D are together the openings *b* will be on line and register with the discharge-opening *c* and the grooves *d*, which grooves form an extension to the conduits *a*, as shown in Fig. 2 of the drawings.

The stopper-section C is formed with an interior shoulder *e*, which shoulder extends around the interior circumference of the section and fits over and upon the upper portion of the section D, and the circumferential shoulder *f* thereon forms a support for the lower end of the upper stopper-section, as shown in Fig. 1 of the drawings. A single valve E is employed, which valve is of egg shape, so that its greatest weight will be at or near its lower end, thereby insuring the valve to assume at all times an upright position and preventing its turning sidewise. This form of valve insures a most perfect fitting thereof upon the seat *g*, which seat is formed in the stopper-section D and is in shape to correspond with the shape of the lower portion of the valve.

A seat *h* is formed in the upper stopper-section C to correspond in shape to the shape of the upper portion of the valve, and the valve-seat in the stopper-section communicates with

a central opening *i* for the passage of the liquid. When the bottle is tipped sufficiently, the valve *E* will fall into the seat *h*, which will allow the liquid in the bottle to pass through the opening *i* and thence through the discharge-openings *c* into the conduits *a* and out through the mouth of the neck *A*. When the bottle is in an upright position, the valve will assume the position as indicated in Fig. 1 of the drawings.

The stopper, as will be noticed, is formed of two parts only, which, in connection with the valve, comprises three distinct parts, that can be made at a comparatively small cost and when in place in the neck of the bottle cannot be removed for the fraudulent filling of the bottle.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A bottle-stopper consisting of two sections

formed with valve seats and a valve operating in connection therewith, the upper one of said sections having conduits which increase in depth in a direction toward the upper end thereof and openings at the base of each conduit communicating therewith, and the lower section having a central opening and grooves upon its periphery which form extensions to the conduits, and openings at the upper ends of the grooves which register with the openings in the upper section when the two sections are together, substantially as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

OTTO H. R. NIENABER.

Witnesses:

WM. BRAUNSTEUR,
FRED FEISTEL.