

(No Model.)

M. L. BERGMAN.  
BOTTLE STOPPER AND VENT COMBINED.

No. 523,967.

Patented Aug. 7, 1894.

Fig. 1.

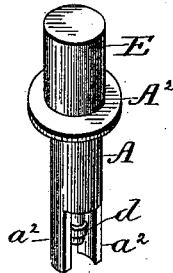


Fig. 2.

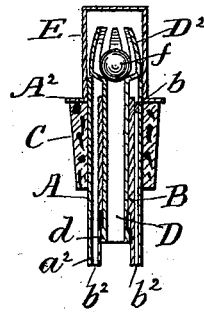


Fig. 3.

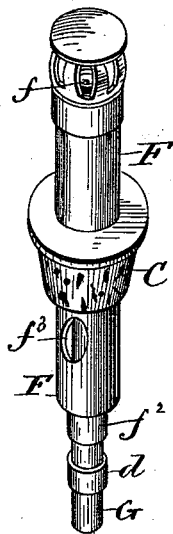
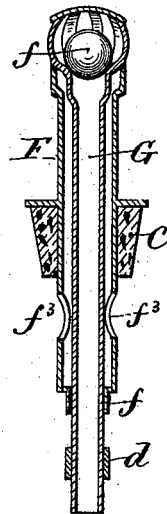


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

MARTIN L. BERGMAN, OF SPOKANE, WASHINGTON.

## BOTTLE-STOPPER AND VENT COMBINED.

SPECIFICATION forming part of Letters Patent No. 523,967, dated August 7, 1894.

Application filed May 16, 1894. Serial No. 511,438. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN L. BERGMAN, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in a Bottle-Stopper and Vent Combined, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to bottle stoppers provided with a gravity valve in the top thereof; and the objects of my improvement are to provide a stopper of this class with a vent tube or tubes, having their inner end of different length than the liquid conducting tube to permit a steady and uninterrupted flow of said liquid when the bottle is held at a proper angle. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a bottle stopper provided with a central liquid discharging tube and two vent tubes on the sides thereof constructed in accordance with my invention. Fig. 2 is a central vertical section of the same with the addition of the cork stopper. Fig. 3 is a perspective view of a modification of the same in which the vent tube is placed in the center and the liquid discharging tube around it. Fig. 4 is a central vertical section of the stopper shown in Fig. 3.

In Figs. 1 and 2 of said drawings A represents the outer tube provided with a collar A<sup>2</sup> near its top, and around said tube is placed a yielding cork sleeve C, the collar A<sup>2</sup> resting on its upper end. Said tube A has therein a tube B of smaller diameter, that has a portion of its upper end secured to the tube A with a drop of solder b, while its lower end is secured to an extension a<sup>2</sup> projecting from the lower end of said tube A, so as to provide two vent passages b<sup>2</sup>.

Fitting loosely within the tube B is placed a liquid discharging tube D that carries on its upper end a cage D<sup>2</sup>, and within said cage there is placed a ball valve f to normally close the upper end of the tube D, while the metal bottom of the cage normally rests upon

the top of the tube A and closes it. To prevent any liquid from accidentally escaping from a bottle provided with said stopper, while it is shipped and perhaps turned upside down; the upper end of the tube A is extended above the collar A<sup>2</sup>, and upon said extension is placed a cap E that is secured thereto either by means of screw-threads in the lower end of said cap or by fitting tightly upon said extension. When the liquid is to be poured out of the bottle the cap E is removed and the bottle is held at a suitable inclination to cause the inner tube D to slide outwardly from the tube B until arrested by the collar d on its inner end coming in contact with the inner end of said tube D, at the same time the ball valve is displaced from its seat, so that while the liquid is flowing out an equal amount of air enters therein after passing over the edge of the tube B and through the vent passages b<sup>2</sup>.

In the stopper shown in Figs. 3 and 4 the outer tube F is intended to be used for the discharge of the liquid and the central tube G which is longer than the tube F is intended as a vent for the passage of the air into the neck of a bottle in which said stopper may be located. Said tube G carries on one end a cage and a ball valve f therein, while the opposite end carries a collar d to limit its motion within the tube F by its coming in contact with the contracted lower end f<sup>2</sup> of said tube F, but the tube G is free to move within said contracted portion. The liquid from the bottle is admitted within the tube F through two openings f<sup>3</sup> in the side thereof under the cork C placed on said tube.

Having now fully described my invention, I claim—

1. In a valved bottle stopper the combination of a central tube having a collar on its lower end, a cage in its upper end and a ball valve within said cage, with an outer tube surrounding the central tube and having the valve cage of the central tube resting on its upper end and perforations leading into the lower portion of said outer tube substantially as and for the purpose described.

2. In a valved bottle stopper the combina-

tion of a central tube having a collar on its  
lower end a cage in its upper end and a ball  
valve within said cage, with an outer tube sur-  
rounding the central tube and having the  
5 valve cage of the central tube resting on its  
upper end and perforations leading into the  
lower portion of said outer tube the outer  
tube being of different length from the inner

tube, substantially as and for the purpose de-  
scribed.

In testimony whereof I affix my signature in  
presence of two witnesses.

MARTIN L. BERGMAN.

Witnesses:

W. J. C. WAKEFIELD,  
L. AMMANN.