

W. I. FERRIS.
DISPENSING STOPPER FOR INK BOTTLES.
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1,143,525.

Patented June 15, 1915.

Fig. 1.

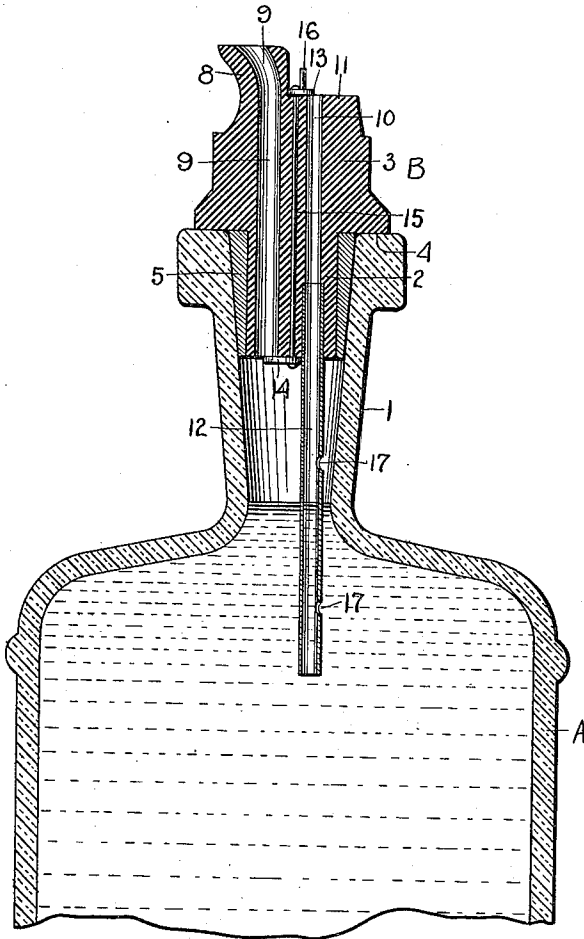


Fig. 2.

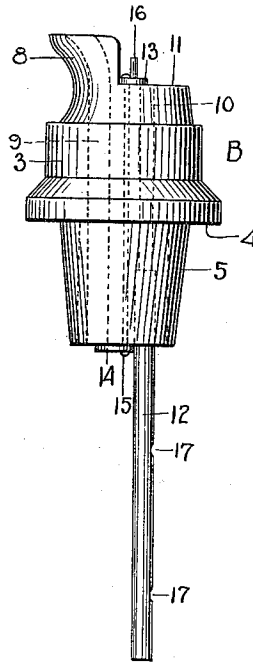
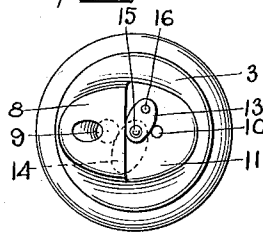


Fig. 3.



WITNESSES

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WILLIAM I. FERRIS, OF WESTFIELD, NEW JERSEY.

DISPENSING-STOPPER FOR INK-BOTTLES.

1,143,525.

Specification of Letters Patent.

Patented June 15, 1915.

Application filed February 9, 1914. Serial No. 817,526.

To all whom it may concern:

Be it known that I, WILLIAM I. FERRIS, a citizen of the United States, and a resident of Westfield, in the county of Union and State of New Jersey, have invented a new and Improved Dispensing-Stopper for Ink-Bottles, of which the following is a full, clear, and exact description.

This invention relates to dispensing stoppers of that type having in addition to the outlet or pouring passage a vent tube which admits air to the bottle as the liquid is poured therefrom.

In stoppers of this character, as heretofore constructed, the liquid and air passages are sometimes difficult to distinguish, so that confusion results in pouring the liquid from the bottle, in that the air passage is mistaken for the liquid passage, there being no means on the stopper to indicate which is the pouring side of the stopper.

It is one of the objects of the present invention to provide an improved dispensing stopper in which the foregoing objections are overcome by reason of the fact that the stopper is so shaped that one side simulates a pouring spout, and at this same side the stopper is provided with a liquid passage so that when the bottle is turned in the act of pouring with the spout-like side lowermost, the liquid will properly flow out, as, of course, the air passage will then be uppermost and admit air freely to the bottle as the liquid flows out.

A further object of the invention is to provide a simple and effective valve device for closing the air and liquid passages of the stopper so as to prevent evaporation of the liquid in the bottle to which the stopper is applied.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawing which illustrates one embodiment of the invention, and wherein similar characters of reference indicate corresponding parts in all the views, Figure 1 is a vertical sectional view of a bottle having the improved stopper applied thereto; Fig. 2 is a side view of the stopper removed; Fig. 3 is a plan view.

Referring to the drawing, A designates

an ordinary ink or other bottle into the neck 1 of which is applied the dispensing stopper B. This stopper may be molded or otherwise formed of suitable material and comprises a stem 2 that extends axially from the bottom of the body 3, there being a shoulder 4 formed at the upper end of the stem which engages the top of the bottle neck when the stopper is inserted. The stem of the stopper may be provided with a tapering sleeve of cork 5 or other suitable material that will snugly fit the bottle neck and prevent leakage.

One side of the upper portion of the body of the stopper is shaped into a spout 8, so that the user will immediately discern which is the side from which the liquid is to be poured, as it is through this spout-bearing side that the stopper with the liquid passage 9 extends. The outer end of the passage is curved to conform more or less to the spout formation 8 to give the proper direction to the issuing stream of liquid.

In filling an ink well from the bottle the user naturally places the spout on the brim of the well and the stream will flow into the latter without danger of the bottle slipping and ink being spilled. At the side of the stopper opposite from the liquid passage 9 is an air passage 10 which opens in the top surface 11 of the stopper, and the stopper is provided with a tube 12 which extends into the bottle and forms a continuation of the air passage, whereby air is admitted to the bottle as ink is flowing out.

In order to prevent evaporation a valve is provided for closing the passages in the stopper. This valve has an outer section 13 that closes the air passage 10, and an inner section 14 which closes the liquid passage, such sections being fastened to the inner and outer ends of a rotatable rod 15 extending axially through the stopper. The valve section 13 may be conveniently provided with a lug or equivalent means 16 to enable it to be grasped in moving the valve device open or closed. In using the stopper it is merely necessary to turn the valve device to open the passages of the stopper and thereby admit air as the ink flows out, and when the pouring is finished the valve is returned to closed position. The air tube 12 may be provided with one or more apertures 17 to facilitate the admission of air during the act of dispensing liquid.

Normally the valve members 13 and 14 close the openings 10 and 9, respectively, so that there is no chance of the ink evaporating, and when it is desired to pour out ink the finger-piece 16 is gripped by the fingers and the valve is turned to the position shown, whereby the passages 9 and 10 are opened, and now the bottle can be turned to pour out ink through the passage 9. The valve member 14 can be turned in either direction in opening, and the opening movement is limited by it coming in contact with the spout extension 8 of the stopper. When the user is through with the bottle the valve is moved to closed position by turning the finger-piece 16 in a direction to cause the valve section 13 to close the passage 10, which means that the passage 9 is closed by the valve section 14. It will thus be seen that the outer section forms an indicator for determining the position of the inner section 14 of the valve. As the outer section is located close to the extension of the stopper that forms the spout 8, the said section of the valve is protected from being injured or opened by contact with objects, as might otherwise be the case.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the appended claims.

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

1. A dispensing stopper having separate

air and liquid passages, separate means respectively closing the inner end of one passage and the outer end of the other, and an element connecting the said means for simultaneous movement and for fastening the said means to the stopper.

2. A dispensing stopper comprising a body having a spout-like extension at its top and a flat surface adjacent said extension, a liquid passage extending through the stopper and through the said extension, an air passage extending through the stopper and having its outer end terminating in the said flat surface, a swinging valve member bearing on said flat surface for opening and closing the outer end of the air passage, a valve member at the inner end of the stopper for closing the liquid passage, and means connecting the valve members together for simultaneous opening or closing movement.

3. A dispensing stopper comprising a body having an air passage extending from the top to the bottom, a spout extension on the top of the body, a liquid passage extending through the body and spout extension, a valve member at the inner end of the liquid passage, a valve member at the outer end of the air passage, and a connecting element extending through the body of the stopper and rigidly uniting the valve members and permitting the valve members to be turned in either direction from closed position, said outer member being arranged to engage the spout extension when moving from closed to open position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM I. FERRIS.

Witnesses:

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WILLIAM A. R. NISBET.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."