Dec. 15, 1925. 1,565,983

G. BORNEMAN

PERFUME HOLDER

Filed Dec. 7, 1922.

Fig. 1.

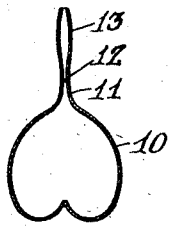


Fig. 2.

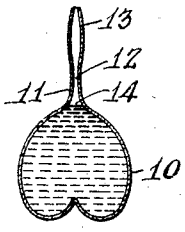


Fig. 3.

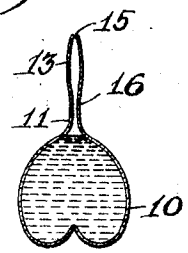


Fig. 4.

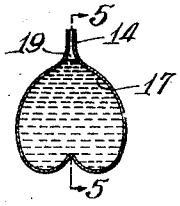


Fig. 6.

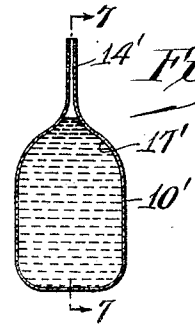


Fig. 5.

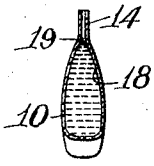


Fig. 7.

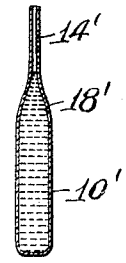


Fig. 8.

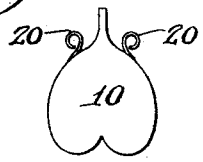
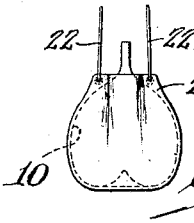


Fig. 9.



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by Steell Jackson
Attorney.

Patented Dec. 15, 1925. 1,565,983

UNITED STATES PATENT OFFICE.

GEORGE BORNEMAN, OF MILLVILLE, NEW JERSEY, ASSIGNOR TO L. G. NESTER COMPANY, INC., OF MILLVILLE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PERFUME HOLDER.

Application filed December 7, 1922. Serial No. 605,365.

To all whom it may concern:

Be it known that I, GEORGE BORNEMAN, a citizen of the United States, residing at Millville, in the county of Cumberland and State of New Jersey, have invented a certain new and useful Perfume Holder, of which the following is a specification.

My invention relates to holders and dispensers for perfume.

My purpose is to provide a constantly open container for perfume in which the perfume is conserved while a delicate fragrance is maintained by the restriction of the opening to a capillary tube.

A further purpose is to control the rate of evaporation of perfume through a constantly open outlet by the restriction of the size of a capillary outlet.

A further purpose is to permit evaporation of perfume while protecting against wastage when the container is upset by using a capillary tube outlet which is sealed by the liquid when the outlet is submerged by it.

A further purpose is to supply a glass container which is heat sealed for shipment and in which the end of the outlet is weakened for breakage to prepare it for shipment and storage.

A further purpose is to provide a perfume pellet adapted to be worn about the body.

Further purposes will appear in the specification and in the claims.

I have preferred to illustrate my invention by two closely related forms only, among a number in which it may appear, selecting forms which are practical, efficient, inexpensive and attractive and which at the same time well illustrate the principles of my invention.

Figure 1 is a longitudinal section through one of my containers before it has been filled with perfume.

Figure 2 is a vertical section of the filled container.

Figure 3 is a vertical section of the container of Figure 2 after it has been sealed for shipment.

Figure 4 is a section corresponding to Figure 3 after the container has been opened for use.

Figure 5 is a section upon line 5—5 of Figure 4.

Figure 6 is a vertical section corresponding to Figure 5 of a second form of the invention.

Figure 7 is a section taken upon line 7—7 of Figure 6.

Figures 8 and 9 are front elevations of the invention seen in Figures 1–5 arranged for suspension.

The figures in the original drawings are slightly enlarged.

In the drawings similar numerals indicate like parts.

I have discovered that perfume may be marketed in very small holders or containers in whatever decorative shape may be desired and provided in use with a permanent capillary outlet, the diameter of the outlet being so selected that the constant evaporation of the perfume from the container shall be just sufficient to supply the needed perfume for the toilet use to which it is to be applied. I prefer to use a glass container 10 having a very small capacity and lending itself well to decorative shapes such as the heart shown.

The outlet from the container is made through a neck 11 which is given a fine capillary passage 12. The illustrations in Figures 1–3 show this tube with a slightly enlarged terminal portion 13, which affords additional vapor space during sealing and a convenient hold for breakage of the end. No special glass need be used as the container can be made of hard or soft (ordinary) glass.

I have secured good results with capillary outlet tubes of as large diameter as two-hundredths of an inch though evaporation of perfume is more rapid at this diameter than would be required by many users.

Because of the capillary outlets the containers cannot be filled in the ordinary way but are filled by heating the container to drive out the greater part of the air content and cooling them or allowing them to cool while the outlets are submerged in the perfume, so as to take advantage of the partial vacuum formed to fill the container, the operation being repeated as often as may be necessary to fill the container to the desired point.

The container, filled to any selected point such as 14, is shown in Figure 2. It is sealed for shipment and storage preferably by heating the glass at the end as at 15 and may then be scratched at any selected point 16, as by a file, or otherwise nicked or weakened, so that in use the end may be broken off at

the most desirable point with a clear break.

The articles are shipped and stored sealed, as seen, for example, in Figure 3, and when the customer is ready to use them the end is broken off, leaving the container in use in some such form as that seen in Figure 4. The capillary outlet 12 need not be long though evaporation from it may be reduced within reasonable limits by lengthening the tube. A long tube 14' is seen attached to a container 10' in Figures 6 and 7.

The shape of the container has no substantial effect upon the rate of evaporation though there is more variation in the surface from which evaporation takes place where the breast is sloped as at 17, 18, 17', 18' than there would be in a square-breasted container. In either event there is ample surface to evaporate all that the tube will distribute.

In operation:—So long as the container rests or is held with the outlet above the liquid, evaporation from the surface of the liquid will take place through the capillary tube.

The rate of evaporation is a function of a number of variables among which are the temperature, the rate of distribution of the vapor at the mouth of the orifice, and the cross section of the passage through which the perfume evaporated must pass. Other conditions being assumed to be constant, the length of time taken for evaporation of the content of such a container as I have described can be controlled with considerable nicety to suit the needs of any intended use by selection of the cross section of the capillary tube best suited to it, selecting a smaller diameter of tube where the temperature is to be relatively high, as where the container is to be worn as a pendant, against the body, or where circulation of air about the outlet or other conditions increase the rate of evaporation.

When the container is turned or upset so that the perfume flows into the approach 19 to the passage 12, the passage fills because of capillary action and the outer end of the passage is moistened, allowing slight liquid leakage until the reduction in pressure in the interior of the container balances the tendency to flow because of capillary action, after which leakage stops as no air can get in through the capillary tube to fill the partial vacuum formed. This makes the tube self-sealing (liquid sealed) against leakage.

If a drop or two of the perfume be desired for immediate use it can be thrown in small quantities through the capilliary tube, taking advantage of the inertia of the liquid which to this extent may be made to overcome the progressive difference in pressure outside and inside the container resulting as the perfume is thrown out.

In Figure 8 the container 10 is provided with eyes 20 by which it may be suspended about the neck, maintaining it in dispensing positon.

Because of the higher rate of evaporation due to the heat of the body when used in this way a container intended for this purpose should be provided with a smaller diameter of capillary outlet.

To protect from injury due to possible breakage of a glass container suspended about the neck, I show a holder 21 in Figure 9 in the form of a bag just large enough to admit the container and deep enough to avoid danger of breakage of any small portion of the container which is allowed to project above it. The holder is suspended by cords 22.

It will be evident that I provide a dispensing container for perfume adapted to be open continuously and in which the same means of throttling the outlet is used both to reduce the rate of evaporation and to make the container self-sealing against leakage in liquid form.

I recognize that in view of my disclosure other modifications and variations of my invention will be suggested to those skilled in the art and it is my intention to include herein all such as come within the reasonable spirit and scope of my invention.

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

1. A flat dispensing container for perfume having a single capillary tube outlet adapted to be severed, the thickness of the walls of the container and the size thereof being such that when said container is placed adjacent the warm skin of the human body, the heat therefrom serves as a dispensing agent for the perfume by means of evaporation.

2. A flat dispensing container for perfume having a single capillary tube outlet and adapted to be broken at different points to give different dispensing rates, the thickness of the walls of the container and the size thereof being such that when said container is placed adjacent to the warm skin of the body, the heat therefrom serves as a dispensing agent for the perfume by means of evaporation.

3. A flat dispensing container for perfume having a single capillary tube outlet adapted to be severed, the thickness of the walls of the container and the size thereof being such that when said container is placed adjacent the warm skin of the human body, the heat therefrom serves as a dispensing agent for the perfume by means of evaporation and a carrier for the container adapted to hold it in position for use.

GEORGE BORNEMAN.