

E. MANDONNET.
 DEVICE TO PREVENT REFILLING OF BOTTLES.
 APPLICATION FILED MAY 15, 1906.

Fig. 1.

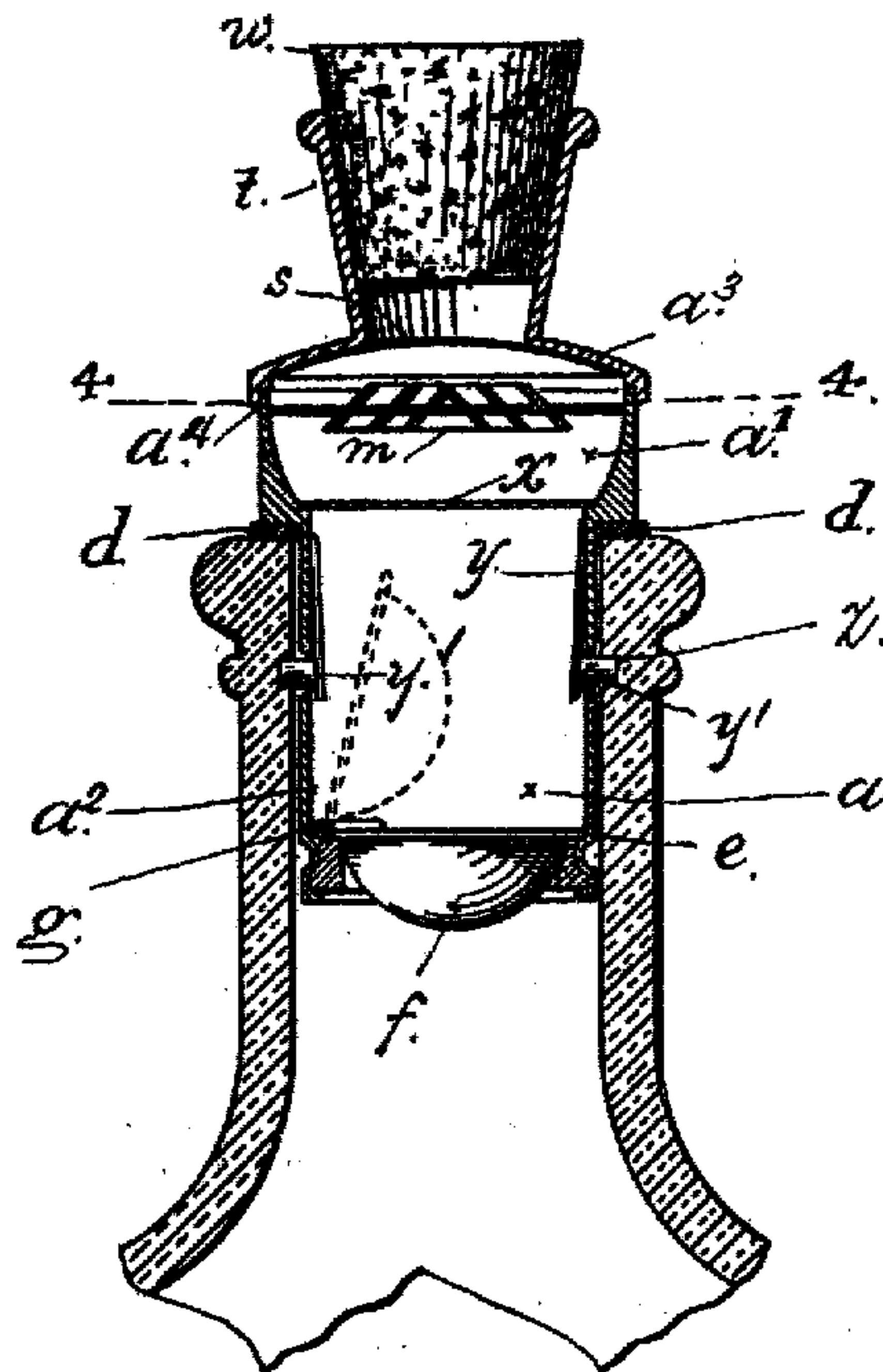


Fig. 3.

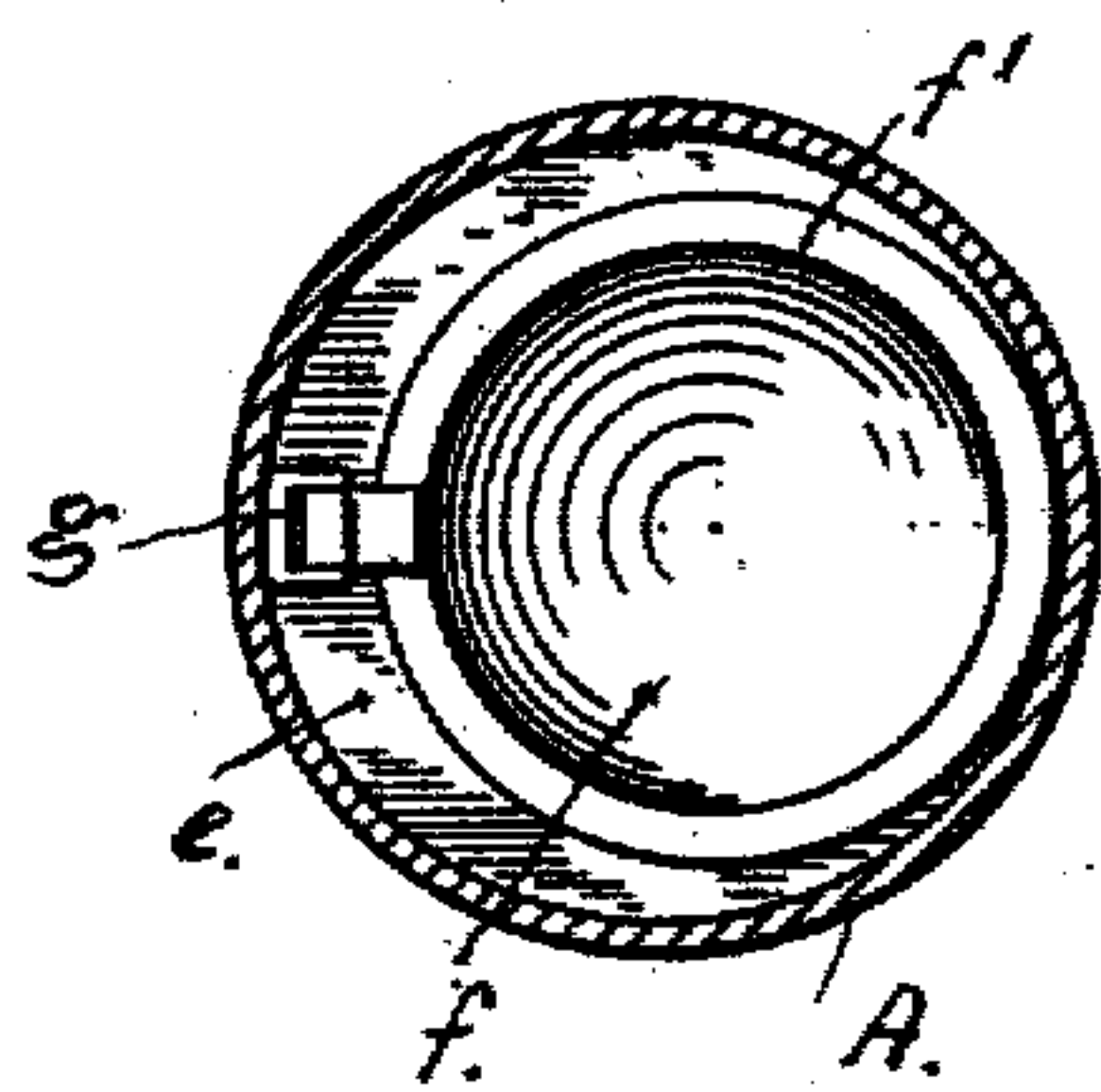


Fig. 2.

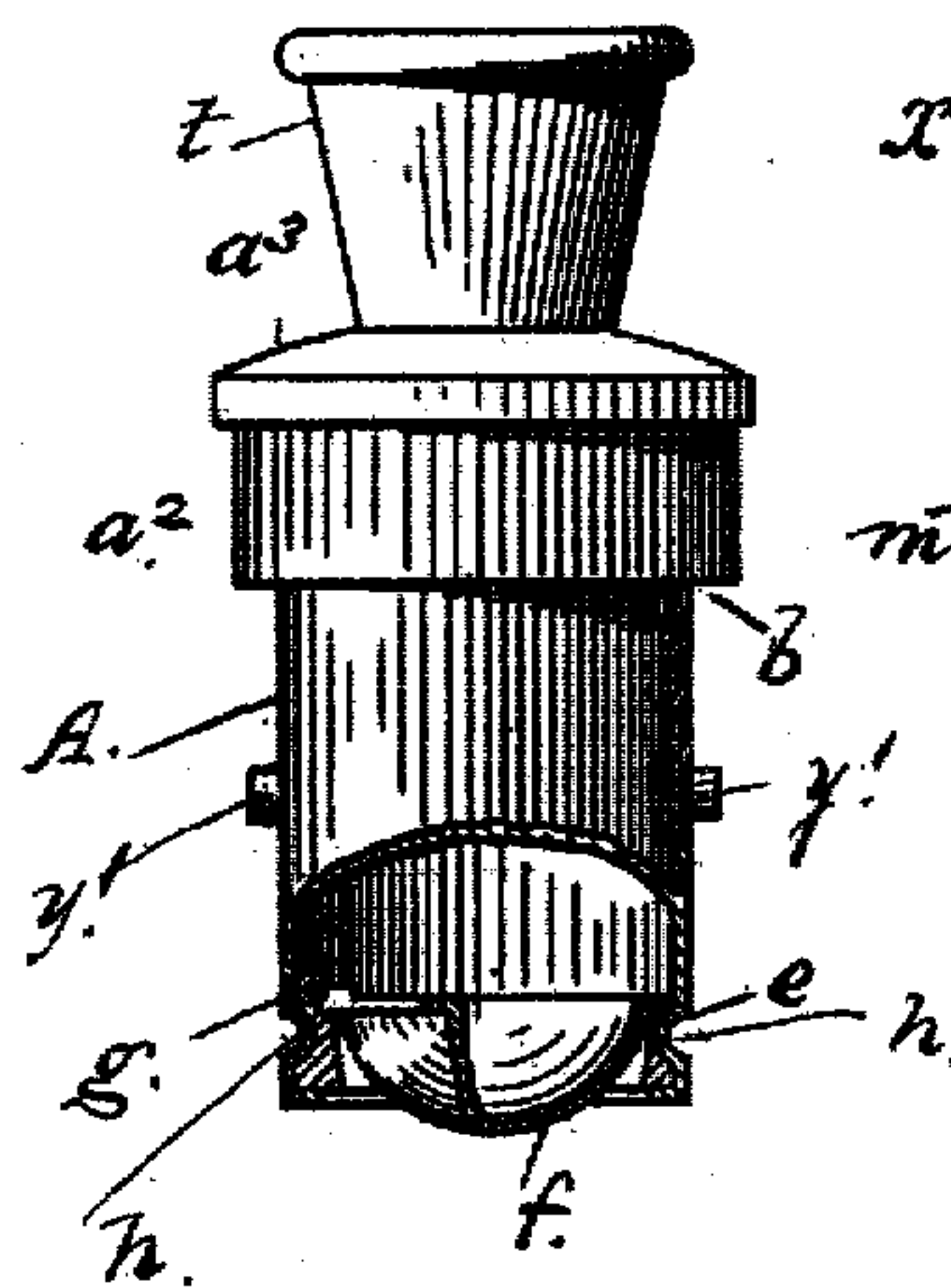
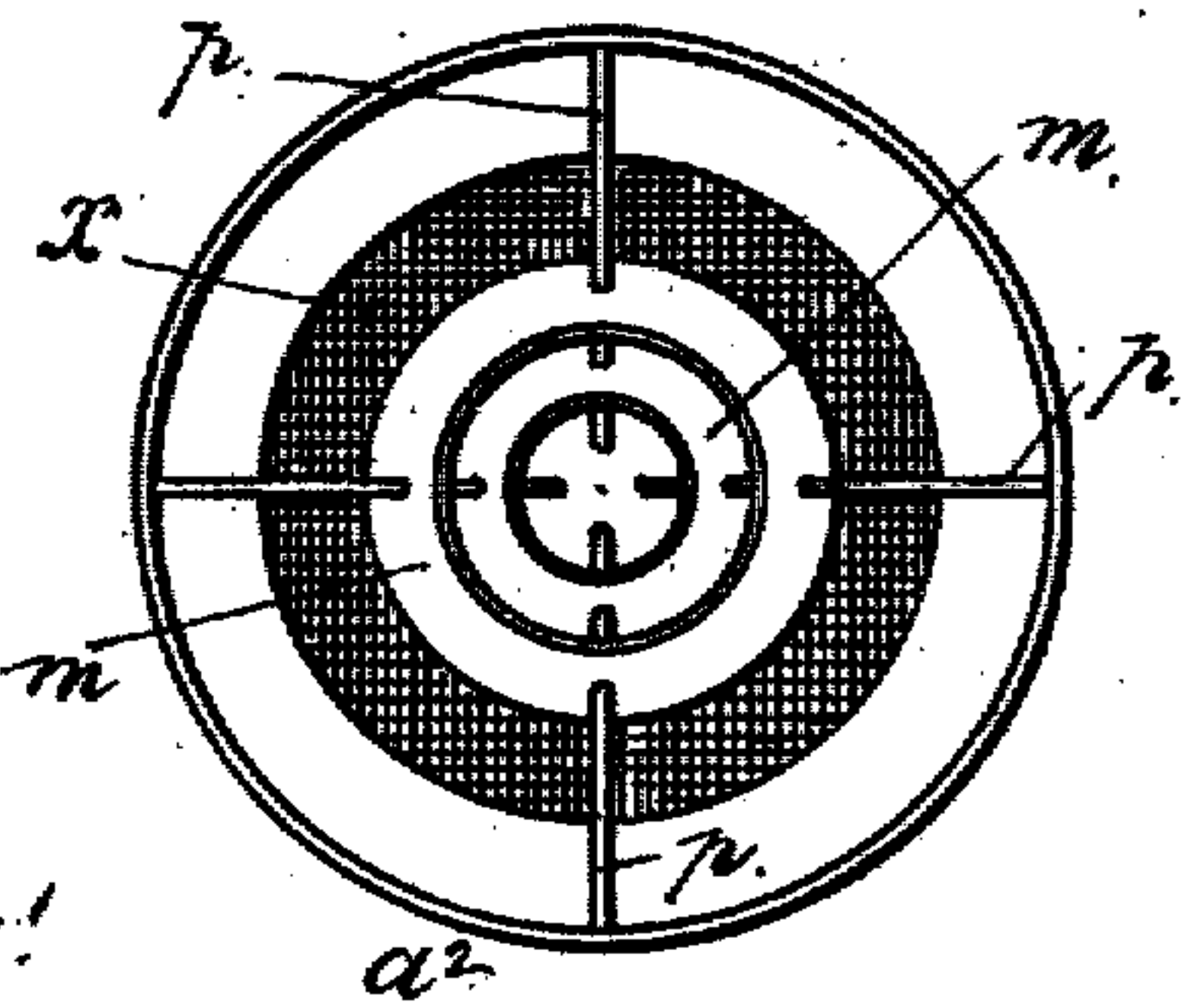


Fig. 4.



WITNESSES.
Arthur L. Lee.
Edmund E. Osborn

INVENTOR.
Edward Mandonnet

UNITED STATES PATENT OFFICE.

EDWARD MANDONNET, OF SAN FRANCISCO, CALIFORNIA.

DEVICE TO PREVENT REFILLING OF BOTTLES.

No. 814,307.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed May 15, 1905. Serial No. 280,386.

To all whom it may concern:

Be it known that I, EDWARD MANDONNET, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Devices to Prevent Refilling of Bottles, of which the following is a specification.

This invention relates to an improved means or device to be fixed in the neck of a bottle for the purpose of preventing the bottle being refilled after it has been emptied of its original contents, and the same comprises a novel construction and combination of shell or hollow plug adapted to close the passage through the neck of the bottle, a gravity-valve controlling the port or opening in the bottom of the shell, and means for fixing the shell in the neck of the bottle, all as hereinafter fully described, and pointed out in the claims at the end of this specification.

The combination and operation of my said device will be explained with reference to the accompanying drawings, in which—

Figure 1 represents my device fixed in place in the neck of a bottle, the body of the device and the neck of the bottle being shown in section. Fig. 2 is an exterior view of the device before it is placed in the bottle, showing the lower portion of the outer wall and also the valve and its seat partly in section. Fig. 3 is a transverse section taken diametrically through the shell above the valve and showing the valve closed on its seat. Fig. 4 is a transverse section taken through the shell on the line 4 4, Fig. 1. Figs. 3 and 4 are represented on an enlarged scale.

The part A, which I have termed the "shell," is made in two parts a^2 a^3 , inclosing a chamber a , having substantially the same dimensions diametrically as the neck of the bottle, but sufficiently small to fit closely into the neck when inserted through the mouth. Above that portion a^2 which fits into the neck the shell is enlarged diametrically to produce the chamber a' , and on this enlarged end is fixed the cap or top piece a^3 by a lap-joint a^4 . The shoulder b , which is formed by the increase in the diameter of the upper part a^3 over the body a^2 , extends over and rests on the top rim around the mouth of the bottle, and a rubber washer or other packing (indicated at d , Fig. 1) is placed between the two surfaces to make a tight joint all around the rim.

In the lower end of the shell a^2 , which is of

the same diameter throughout, is a valve-seat e , provided with a flat top face and of circular outline for a valve of the flap kind. The valve has a cup-shaped or hemispherical body f of approximately the same dimensions diametrically as the opening in the bottom of the shell and a flat rim f' around the circumference to project over and make a close joint with the valve-seat e when closed on it. This last-named part is best formed of a separate ring provided with an external groove h , into which the wall of the shell a^2 is forced after the ring is set in place, as seen in Fig. 1, and the valve f being attached to the ring by a hinge g the ring is inserted and permanently fixed by crimping the outer shell into the groove h . The form of the valve and its position when closed on its seat are seen in Figs. 1 and 2. Its position when the bottle is tipped to pour the liquid is indicated by the dotted lines in Fig. 1.

In the enlarged chamber a' above the neck a stationary guard permanently fixed to the walls of the chamber protects the valve from being tampered with from the outside.

A protector of some kind is required to prevent the valve being reached and held off its seat by introducing a wire or other instrument through the mouth of the bottle, and in the present device the means provided for that purpose is constructed with a view to afford the necessary protection without materially affecting the free outflow of the liquid. This part is composed of several conical rings of different diameters placed concentrically one within another and fixed in that position by means of cross-rods p , extending diametrically through the conical rings at right angles to each other, and from one side to the other of the surrounding shell to the sides of which the rods are fixed. The conical rings are so arranged one within the other that the upper edge of each ring will overlap the lower edge of the ring lying next within it, and the space separating each ring and the next is necessarily inclined outwardly or toward the side wall of the chamber a^3 instead of perpendicularly downward. The effect of this construction is to prevent the introduction of a wire through the mouth or outlet into the valve-chamber a^2 , while not interfering with or materially reducing the area of the discharge.

In the top of the cap-piece a^3 an outlet s is provided for the discharge of the liquid, and a spout or neck t surrounds the outlet to re-

ceive a cork *w* for closing and sealing the bottle. This neck is spun or otherwise formed integrally with the cap-piece to reduce the number of joints.

5 The means for fixing the plug in place should be such that the device cannot be removed without destroying it or breaking the bottle, and at the same time it must be readily applied without increasing the expense or
10 requiring much exercise of skill or labor. The fastening means for this purpose (illustrated in Figs. 1 and 2) is self-acting in its character and consists of spring-catches attached to the inside of the shell *a*² and projecting through
15 apertures in the walls of the shell, so as to engage notches or shoulders *Z*, formed in the wall of the neck of the bottle just below the top rim. Each catch is composed of a spring-tongue *y*, attached at one end to the wall
20 of the part *a*² on the inside and provided with a short bolt or spur *y'* on the free end. This last-named part sits through an aperture in the shell *a*² at proper distance below the shoulder *b*, so that the catch will engage
25 the notch *z* in the neck when the shell being pressed down into the bottle comes to a seat on the top rim of the neck. As these fastenings are not accessible from the outside after the device is inserted and fixed in the bottle,
30 it can be removed only by destroying either the device itself or breaking the bottle.

A wire-gauze strainer *X* is sometimes fixed in the chamber *a*³ below the guard *m* to exclude dust and insects.

Having thus described my invention, what 35 I claim, and desire to secure by Letters Patent, is—

1. In a device for preventing refilling of a bottle, a shell having a cylindrical body portion to fit into the neck of the bottle and a 40 head of greater diameter than the mouth of the bottle to rest on and cover it and provided with an opening in the bottom of the body portion, a valve-seat around said opening, a hinged upwardly-opening valve having a cup- 45 shaped body and a flange to fit the valve-seat, the top of the shell being provided with an outlet-opening, and means for fixing the shell in the neck of the bottle.

2. The combination with a bottle, of a shell 50 fixed in the neck thereof having an enlarged top adapted to seat on the rim and close the mouth of the bottle and a body portion extending into the passage through the neck and provided with an opening in the lower 55 end, a valve-seat around said opening, a hinged valve seated thereon and opening upwardly therefrom, the shell having an opening in the top and a standing rim around said opening, and a guard fixed within the shell 60 between the said opening and the valve.

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

EDWARD MANDONNET.

Witnesses:

EDWARD E. OSBORN,
ARTHUR L. SLEE.