No. 771,612. PATENTED OCT. 4, 1904.

R. G. DAVIS.

BOTTLE.

APPLICATION FILED AUG. 17, 1903. RENEWED JULY 6, 1904.

NO MODEL.

Fig. 1.

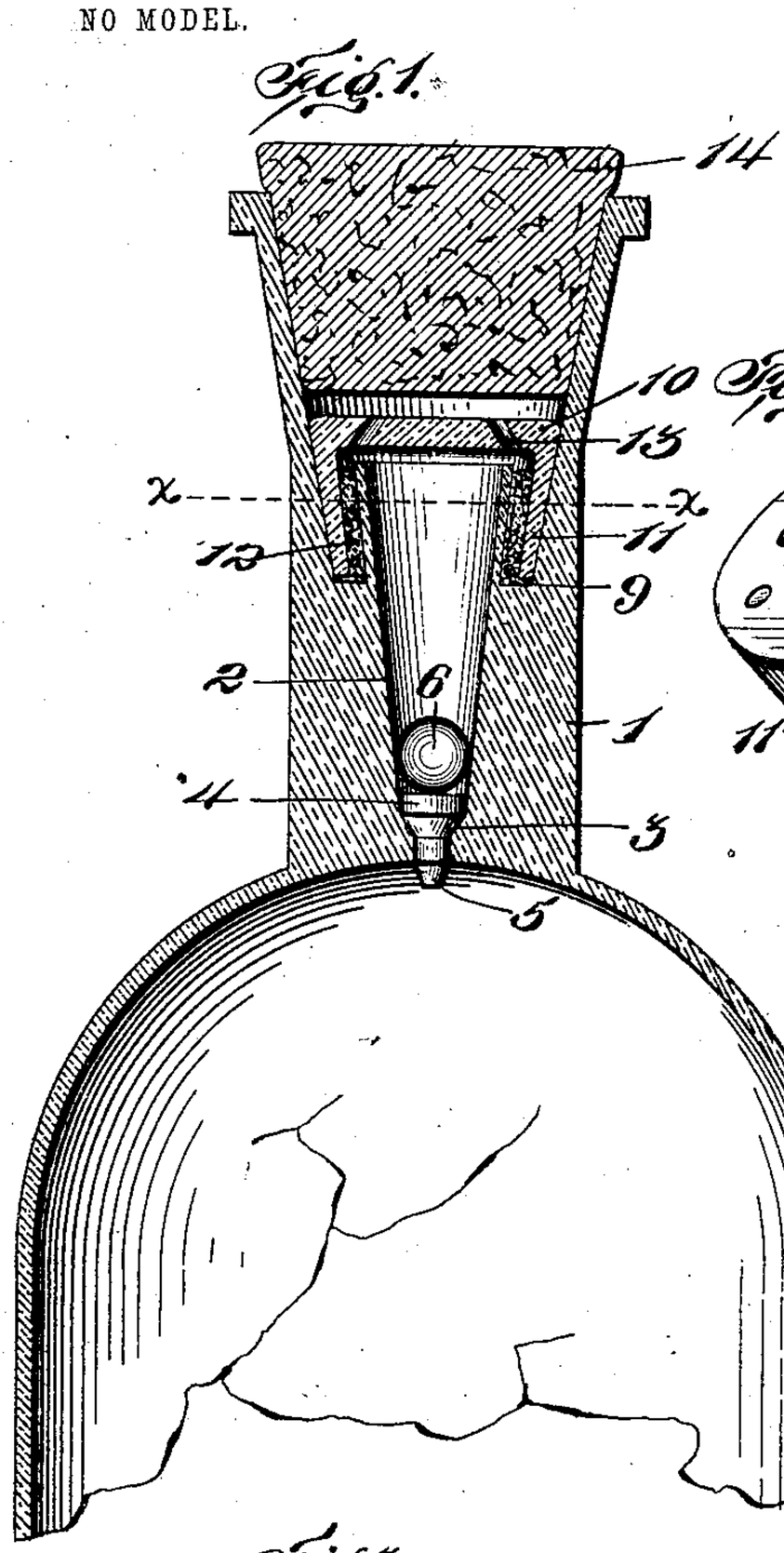

Fig. 4.

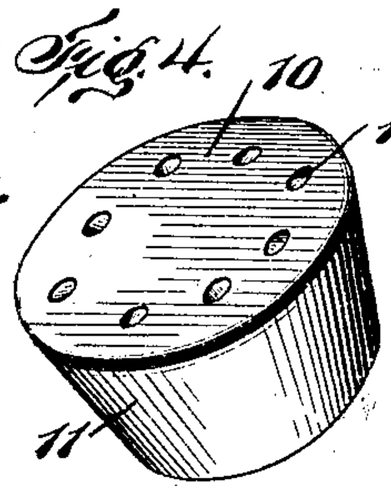

Fig. 6.

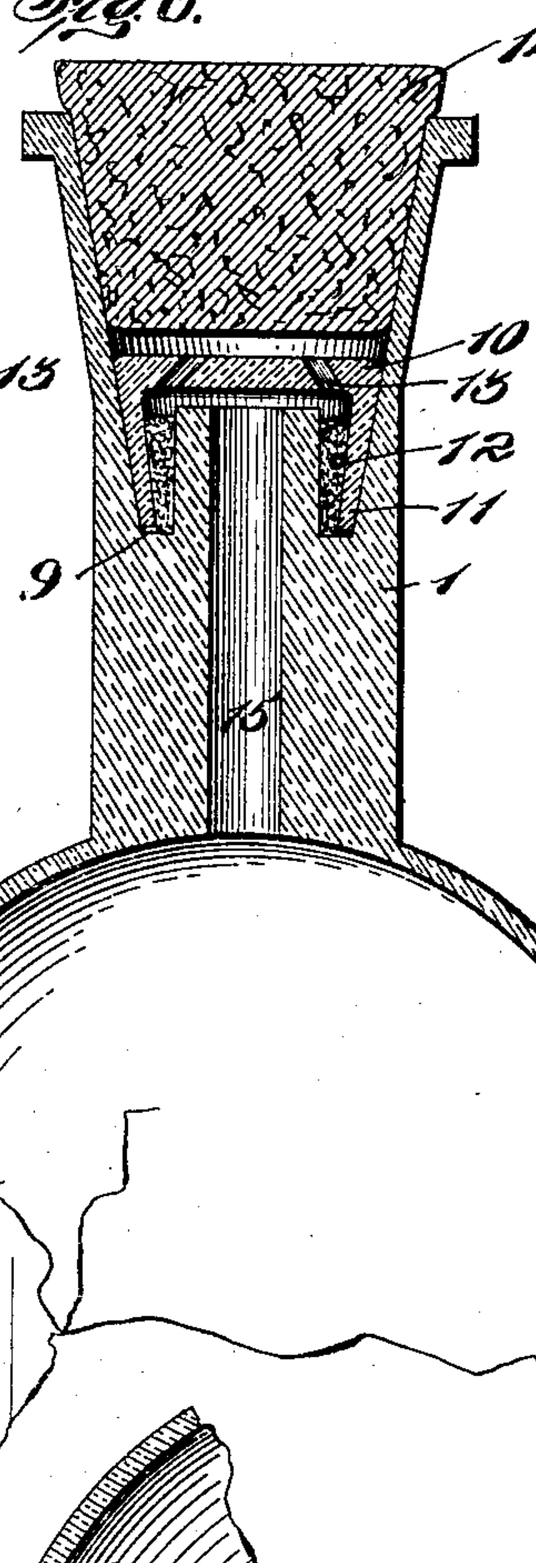

Fig. 3

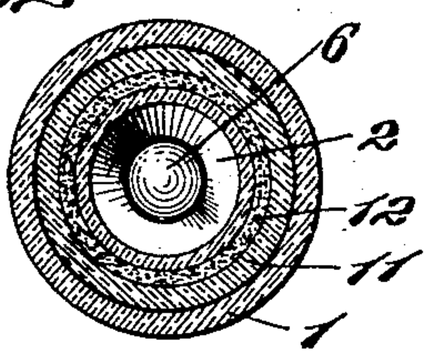

Fig. 5.

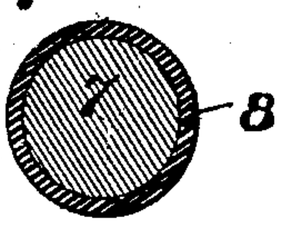

Fig. 2.

WITNESSES:

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 771,612. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

ROBERT G. DAVIS, OF HOT SPRINGS, ARKANSAS, ASSIGNOR TO HIMSELF AND SAMUEL D. WEIL, OF HOT SPRINGS, ARKANSAS.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 771,612, dated October 4, 1904.

Application filed August 17, 1903. Renewed July 6, 1904. Serial No. 215,530. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. DAVIS, a citizen of the United States, and a resident of Hot Springs, in the county of Garland and State of Arkansas, have invented a new and Improved Bottle, of which the following is a full, clear, and exact description.

This invention relates to improvements in bottles of the non-refillable class, an object being to provide a bottle of this character that will be simple and inexpensive in construction and which after the discharge of its original contents cannot be refilled, thus not only protecting the original bottler, but preventing the sale of spurious goods to purchasers.

I will now describe a bottle embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a bottle embodying the invention. Fig. 2 shows the same in position for pouring out liquid. Fig. 3 is a section on the line *x x* of Fig. 1. Fig. 4 is a perspective view of a protecting-cap employed. Fig. 5 is a sectional view of a valve-weight employed, and Fig. 6 is a section showing a modification.

Referring to the drawings, 1 designates a bottle-neck having a funnel-shaped discharge-opening 2, the larger diameter being at the outlet end. At the inner end a valve-seat 3 is provided for a valve 4, which has a stem portion 5 designed to engage in the restricted opening below the valve-seat. The valve-seat will be suitably ground to make a tight joint and the valve will be made of rubber or other suitable material having a specific gravity equal to that of the liquid contained in the bottle. A weight 6 is arranged in the opening 2 and is designed to engage upon the valve 3 and hold the same in place when the bottle is in a vertical position. This weight consists of a ball having a metal core 7 and a hard-rubber casing 8. This casing will prevent the metal from coming in direct contact with the liquid.

Formed around the upper portion of the opening 2 is an annular channel 9, the walls of which are parallel with the wall of said opening 2. A cap 10 is arranged over the outlet of the opening 2 and has an annular flange portion 11 seated in said channel 9. The outer surface of this flange may be cemented to the bottle-neck material by an acid and heat proof cement. A suitable cement 12 is also placed between the inner surface of the flange 11 and the inner wall of the channel 9. The cap 10 is provided with a plurality of perforations 13, which, as shown, are inclined downward and outward, the inner ends being outward of the outlet for the opening 2, and thus the entrance of a wire or similar device to manipulate the valve is prevented. The cap 10 is placed sufficiently below the end of the bottle-neck to permit the entrance of an ordinary cork 14. In Fig. 6 the valve is omitted and in such case the neck is provided with a straight outlet-opening 15.

In operation by tilting the bottle the valve will leave its seat, and, with the weight, move to the enlarged portion of the opening 2, so that the liquid may pass freely out. Should an attempt be made to refill the bottle by placing it in liquid or by forming a vacuum in the bottle and then inserting it in liquid, the liquid will force the valve tightly against its seat, and thus prevent refilling.

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

1. A bottle having a longitudinal opening in its neck, an annular channel formed around the upper portion of said opening, and a perforated cap having an annular flange portion secured in said channel.

2. A bottle having a longitudinal opening in its neck, a channel surrounding the opening at the upper portion, a cap having a flange portion seated in said channel, and cement for securing the cap in place, the said cap having a series of perforations inclined down-

ward and outward, the inner ends of said perforations being at one side of the outlet-opening of the neck.

3. A bottle having a funnel-shaped longitudinal opening in its neck, a valve-seat at the lower portion of said opening, the opening being restricted below said valve-seat, a valve engaging on said seat and having a stem for engaging in the restricted opening, a weight movable in the first-named opening, and a perforated cap secured over the outlet-opening.

4. A bottle having a funnel-shaped outlet-opening through its neck, a valve-seat formed at the lower end of said opening, a valve for engaging with said seat, a weight for engaging with the valve, the said weight comprising a metal core and a rubber covering, and a perforated cap secured over the outlet end of the opening.

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

ROBT. G. DAVIS.

Witnesses:
CHAS. W. O. BRYAN,
GEO. A. HUBBARD.