

No. 829,775.

PATENTED AUG. 28, 1906.

A. D. & A. B. GEORGE.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED FEB. 12, 1906.

FIG. 1

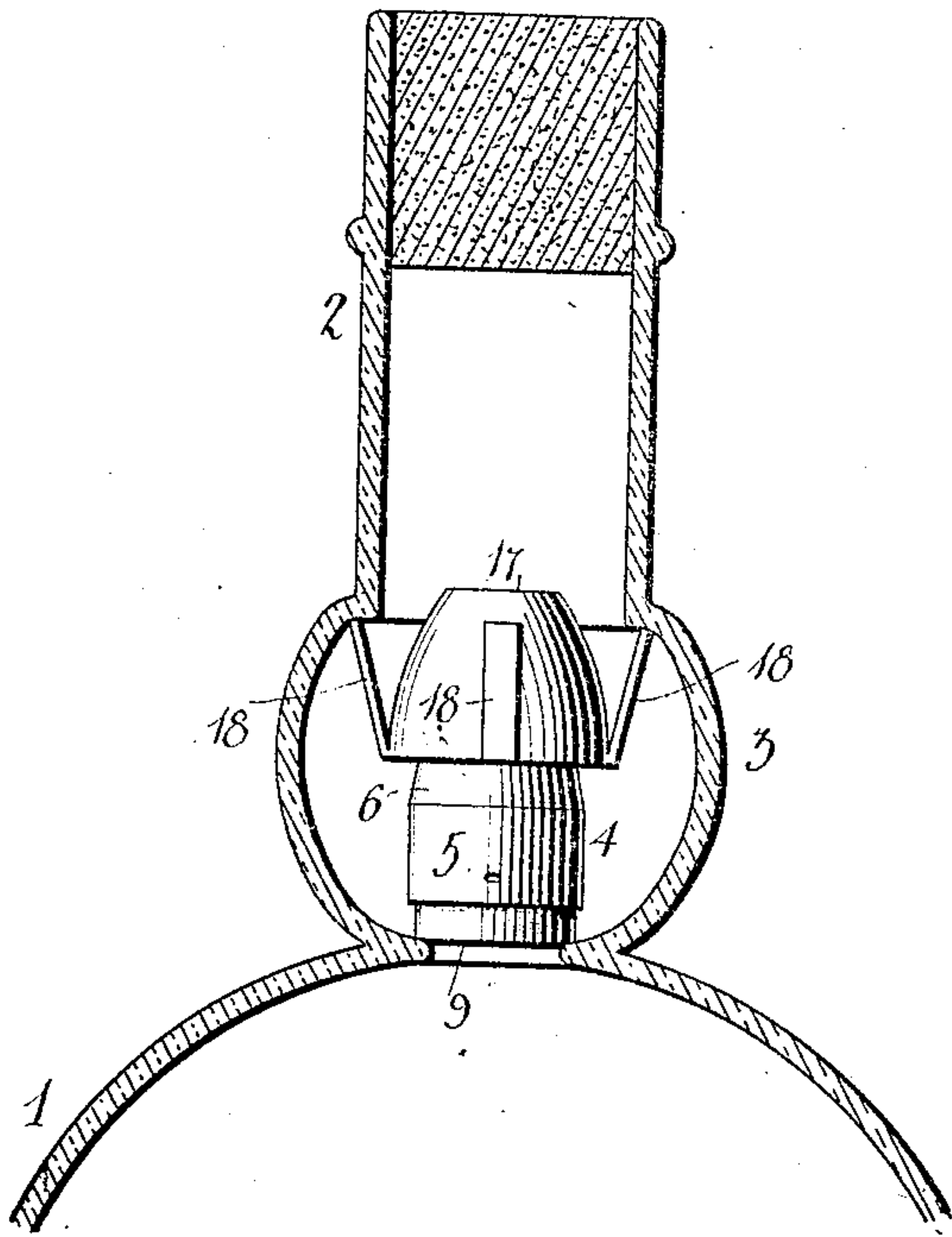


FIG. 2

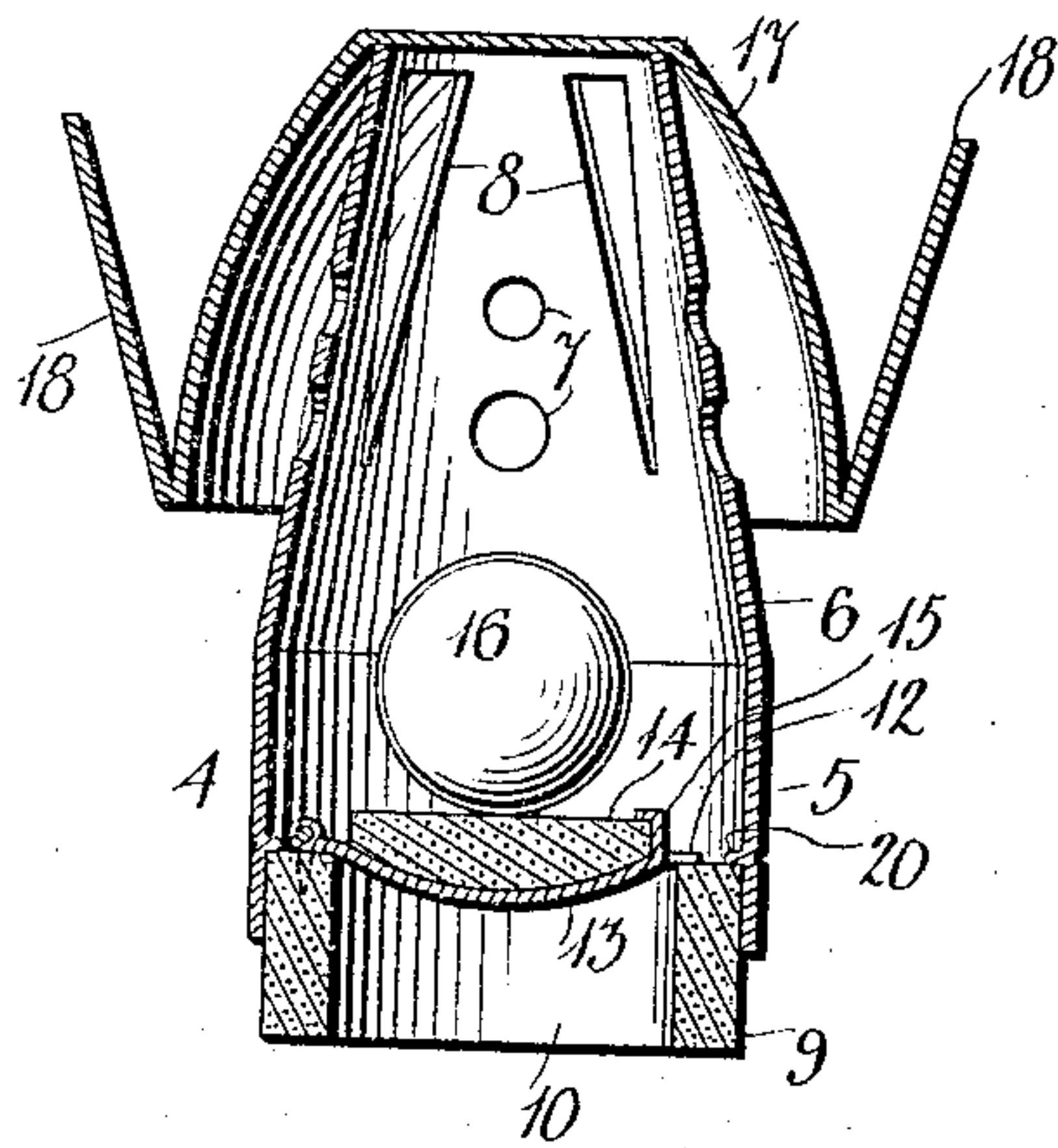


FIG. 3

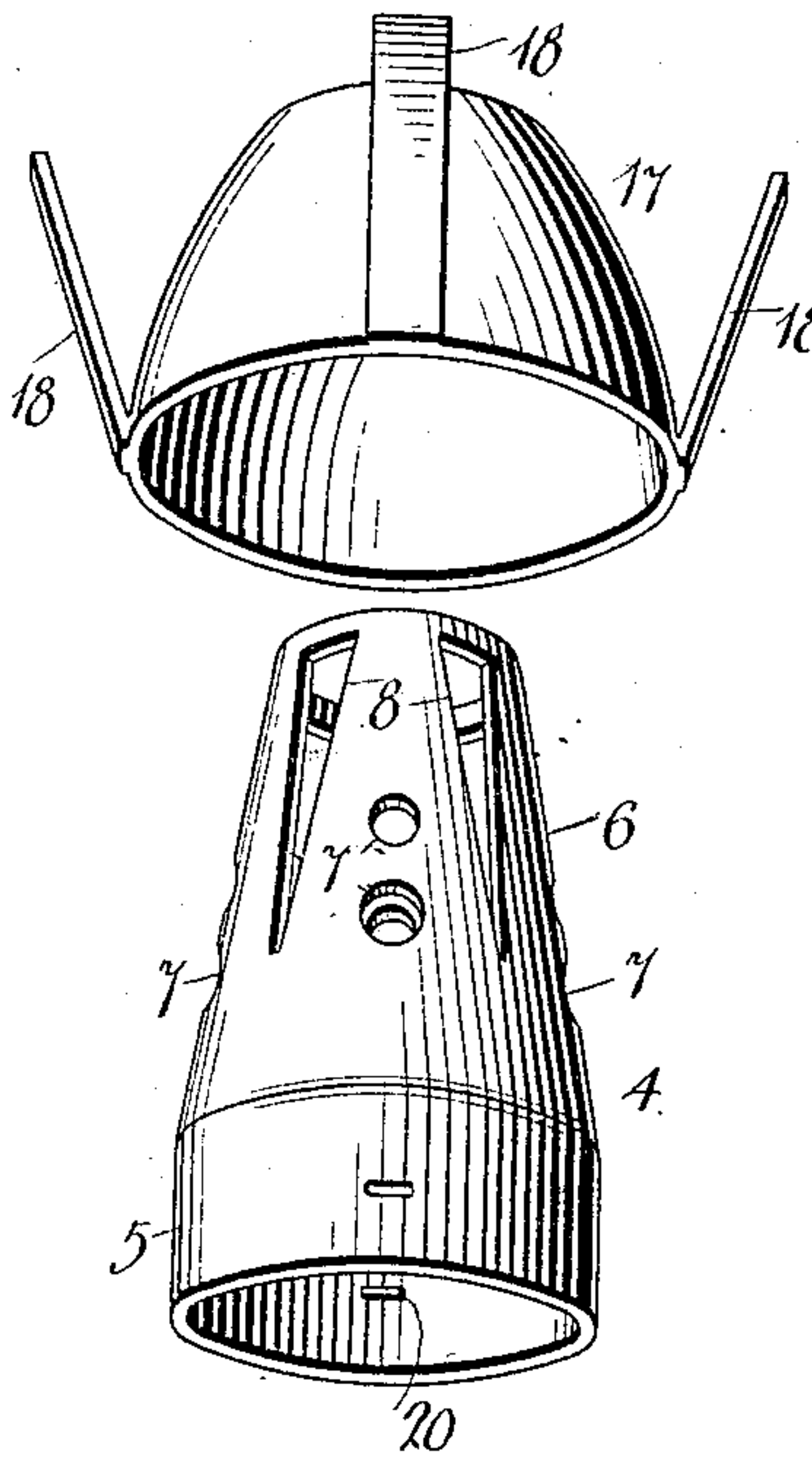
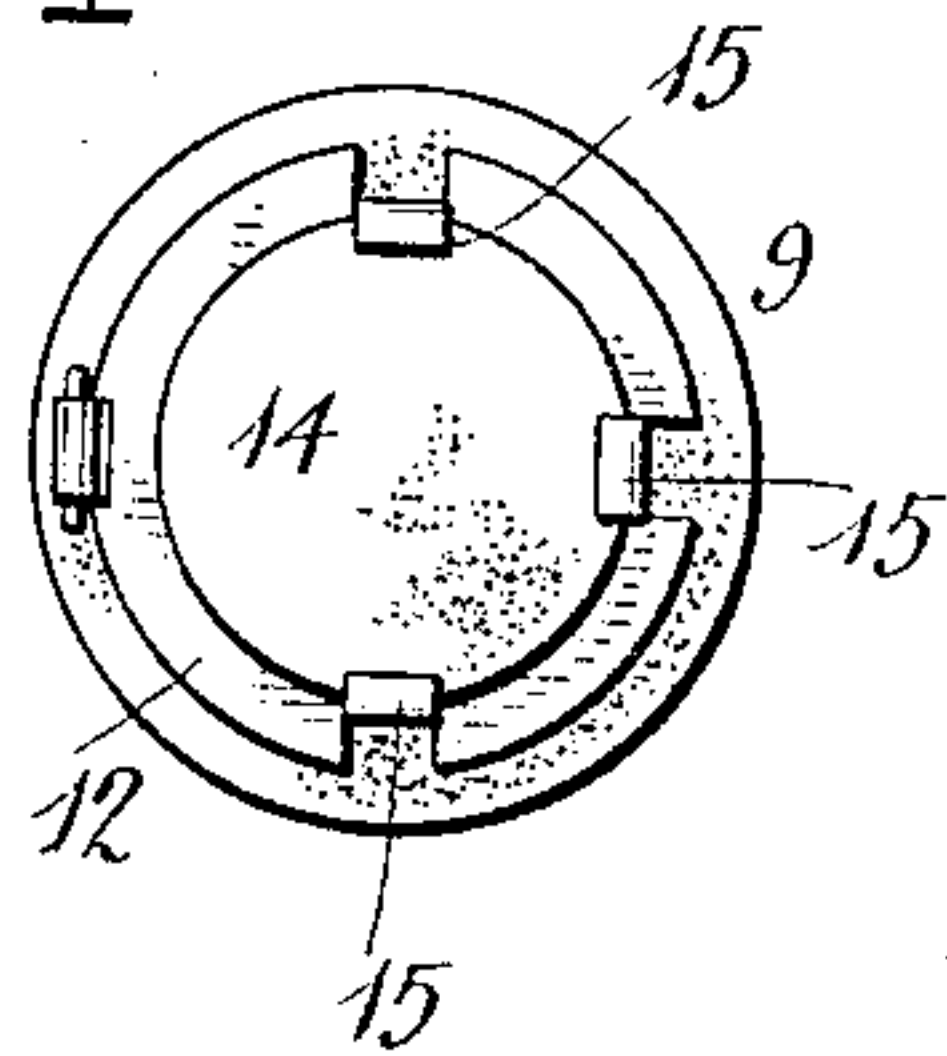


FIG. 4



Witnesses  
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# UNITED STATES PATENT OFFICE.

ADELBERT D. GEORGE AND AUSTIN B. GEORGE, OF DIXON, ILLINOIS.

## NON-REFILLABLE BOTTLE.

No. 829,775.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 12, 1906. Serial No. 300,769.

*To all whom it may concern:*

Be it known that we, ADELBERT D. GEORGE and AUSTIN B. GEORGE, citizens of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Non-Refillable Bottles; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in non-refillable bottles.

The object of the invention is to provide a bottle of this character having a closure constructed in such manner that the refilling of the bottle in any position will be prevented.

A further object is to provide means to prevent the interference or tampering with said closing device.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view through the neck and upper end of the bottle, showing the application of the invention thereto. Fig. 2 is a similar view, on a larger scale, of the valve-casing, the valve and the protecting-cap removed from the bottle. Fig. 3 is a detail perspective view of the valve-casing and retaining-cap, showing the same separated; and Fig. 4 is a plan view of the valve and its seat removed from the casing.

Referring more particularly to the drawings, 1 denotes the bottle, having a neck 2, at the lower end of which is formed a globular enlargement 3. Arranged in the enlargement 3 is a valve-casing 4, having a lower cylindrical portion 5 and an upper frusto-conical portion 6. In the upper frusto-conical portion of the valve-casing is formed a series of discharge-apertures 7, between which are arranged radially-disposed slots or apertures 8. In the lower cylindrical portion of the valve-casing is arranged a valve-seat 9, said seat being preferably formed of cork or other elastic material and provided with a centrally-disposed passage 10. Mounted on the upper inner end of the seat 9 is a valve 12, said valve being preferably in the form of a metallic disk, having a central concave por-

tion 13, which is adapted to enter the passage 10 in the valve-seat when said valve is closed. The valve 12 is preferably hinged to the upper end of the valve-seat, as shown, and on the upper side of said valve is arranged a disk 14, formed of cork or other buoyant material, the object of which will be hereinafter described. The disk 14 is preferably held in place on the valve 12 by means of clips 15, which are preferably formed integral with and bent upwardly from the valve. Arranged in the casing above the valve 12 is a ball or other shaped weight 16, adapted to close the valve 12 when the bottle is in an inclined position, as will be hereinafter more fully described.

Adapted to be placed upon the upper end of the valve-casing 4 is a protecting-cap 17, said cap being frusto-conical or cup-shaped, so that the sides of the same extend downwardly over the apertured upper end of the valve-casing, the sides of said cap being such that a space is provided between the inner walls of the cap and the outer walls of the valve-casing, thus permitting liquid to flow out of the apertures in the casing when the bottle is in an inclined position. Arranged on the cap is a series of radially-disposed upwardly and outwardly inclined spring-tongues 18, said tongues being preferably cut from and formed integral with the material forming the cap. The same, however, if desired, may be formed separate therefrom and riveted or otherwise secured thereto. The valve-casing is provided with inwardly-projecting lugs 20, arranged near the lower end thereof, to hold the valve-seat 9 in position in the lower end of the casing, as shown.

In operation the bottle is first filled, after which the valve-casing 4, containing the valve-seat 9 and valve 12, together with the cap 17, are inserted through the neck into the enlargement 3, so that the lower end of the valve-seat 9 will engage the shoulders formed by the lower end of the enlargement 3. When the parts have thus been forced into position in the enlargement 3, the spring-tongues 18 on the casing 17 will spring outwardly and engage the shoulder formed by the upper end of the enlargement 3, thus securing the valve and the protecting-cap in place. If desired, an ordinary stopper may be placed in the upper end of the bottle-neck. When it is desired to discharge liquid from the bottle, the



same is tilted to a proper inclination which will cause the valve 12 to swing open, thus permitting the liquid to flow through the passage 10 in the valve-seat 9 and through the apertures 7 and 8 in the valve-casing, from which it enters the enlargement 3 and passes out through the neck of the bottle. Should an attempt be made to refill the bottle by holding the same in either a vertical or inclined position, the ball or weight 17 will roll down the inclined sides of the valve-casing and close said valve, thus preventing the entrance of liquid while the bottle is in an inclined or vertical position. Should an attempt be made to refill the bottle when in an inverted position, the liquid being forced therein will as soon as the same enters the valve-casing float the valve 12 by reason of the cork disk 14, attached thereto, thus causing the valve to close, which will prevent liquid from entering the bottle when in this position. The cap 17 when arranged in place on the upper end of the valve-casing will prevent the valve from being tampered with or injured. It will thus be seen that a valve constructed and arranged in a manner described herein will effectively prevent the refilling of the bottle irrespective of the position in which the same may be held.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claims.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, the combination with the neck of the bottle having a globular enlargement, of an apertured valve-casing arranged therein, said casing having a frusto-conical upper end, a protecting-cap arranged on the upper end of said casing, spring locking-tongues arranged on said cap to engage the shoulder formed by the upper end of the enlargement in said bottle-neck, a valve-seat arranged in the lower end of said casing to engage the shoulders at the lower end of said enlargement, a valve hingedly connected to said seat, and means to close said valve, substantially as described.

2. In a non-refillable bottle, the combination with the neck of the bottle having a globular enlargement, of an apertured valve-casing arranged therein, said casing having a frusto-conical upper end, a protecting-cap arranged on the upper end of said casing, spring locking-tongues arranged on said cap to engage the shoulder formed by the upper end of the enlargement in said bottle-neck, a valve-seat arranged in the lower end of said casing to engage the shoulders at the lower end of said enlargement, a valve hingedly connected to said seat, a disk of buoyant material secured to the upper side of said valve, and a ball or weight loosely arranged in said casing above said valve, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ADELBERT D. GEORGE.  
AUSTIN B. GEORGE.

Witnesses:

E. M. BROWNE,  
E. E. WINGERT.