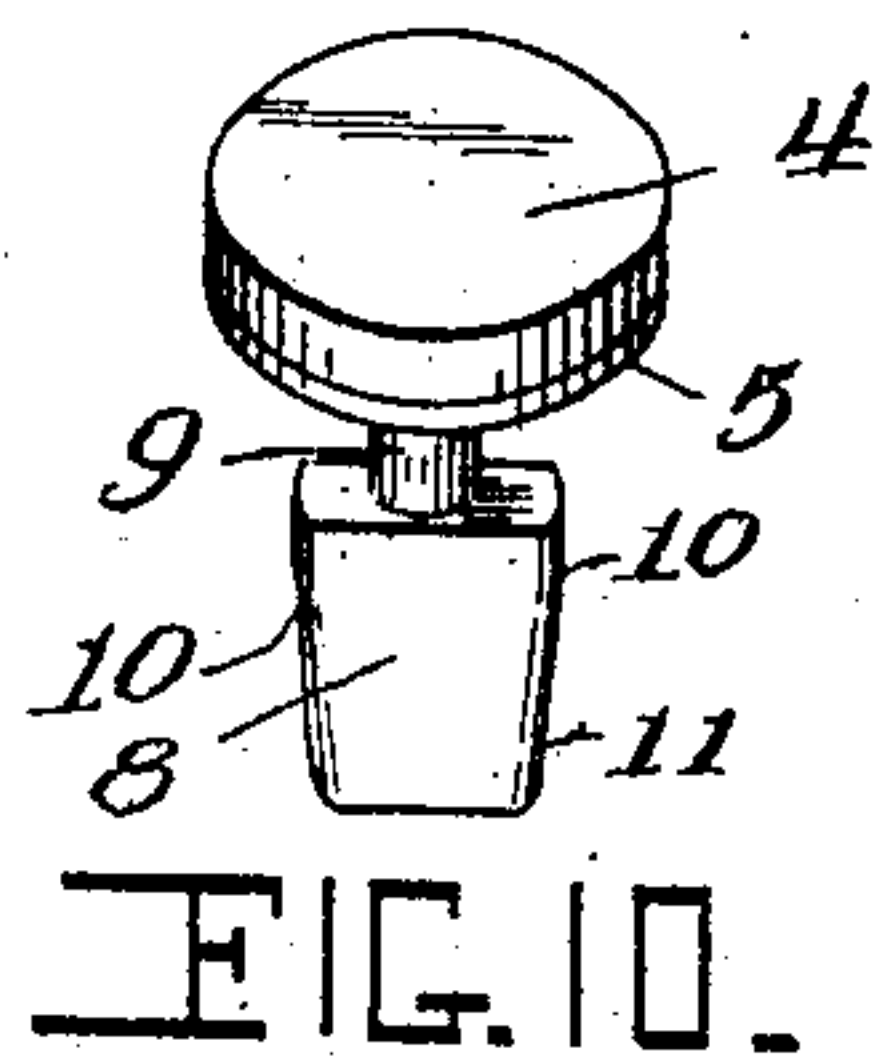
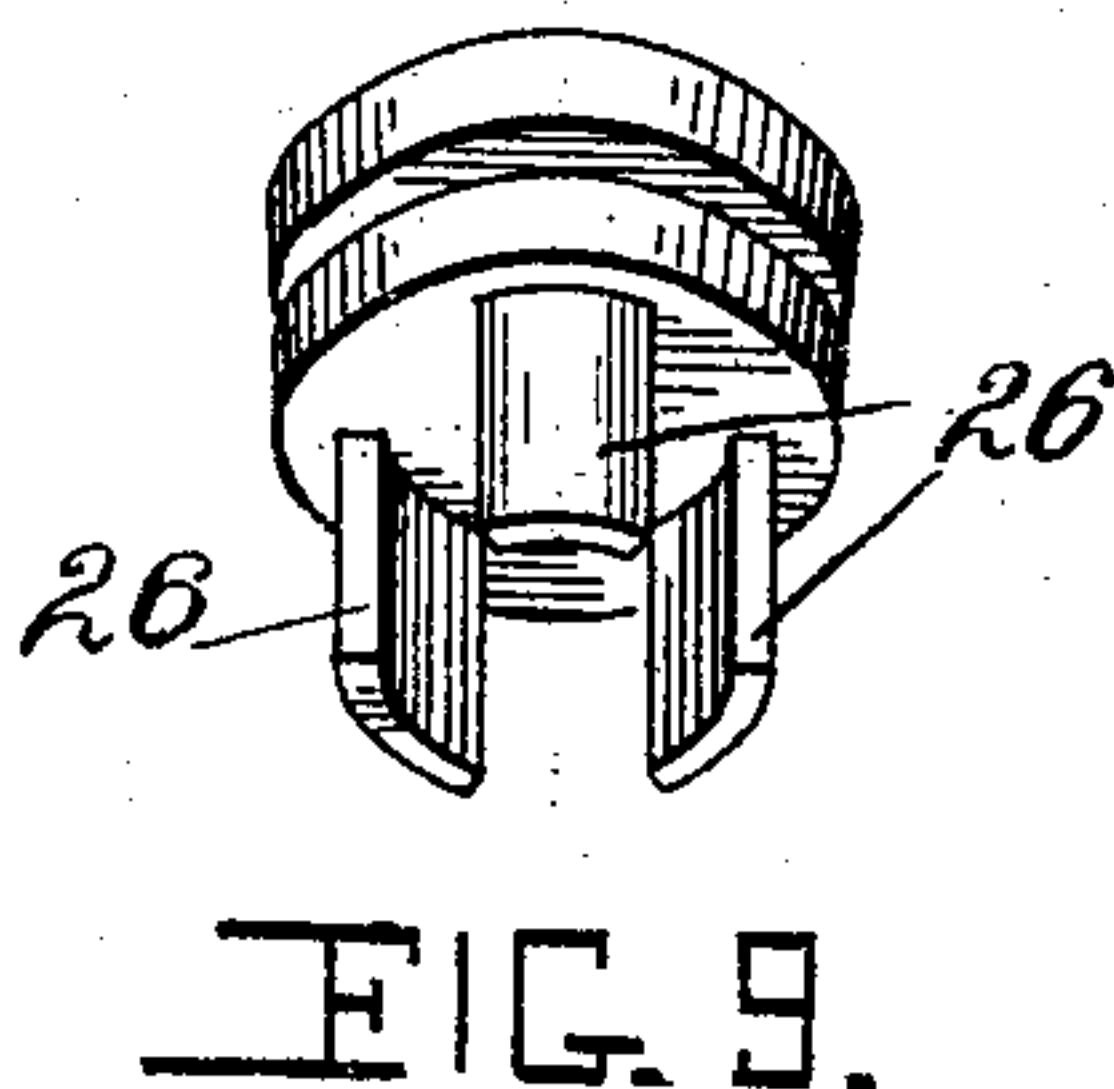
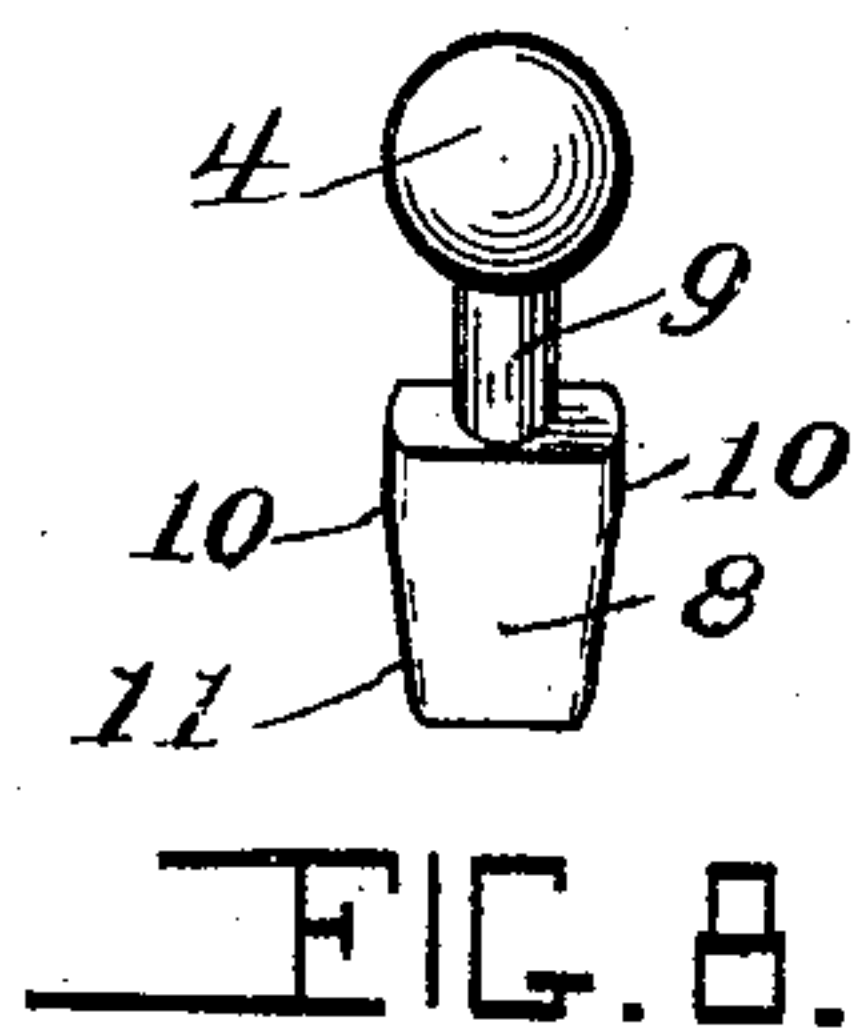
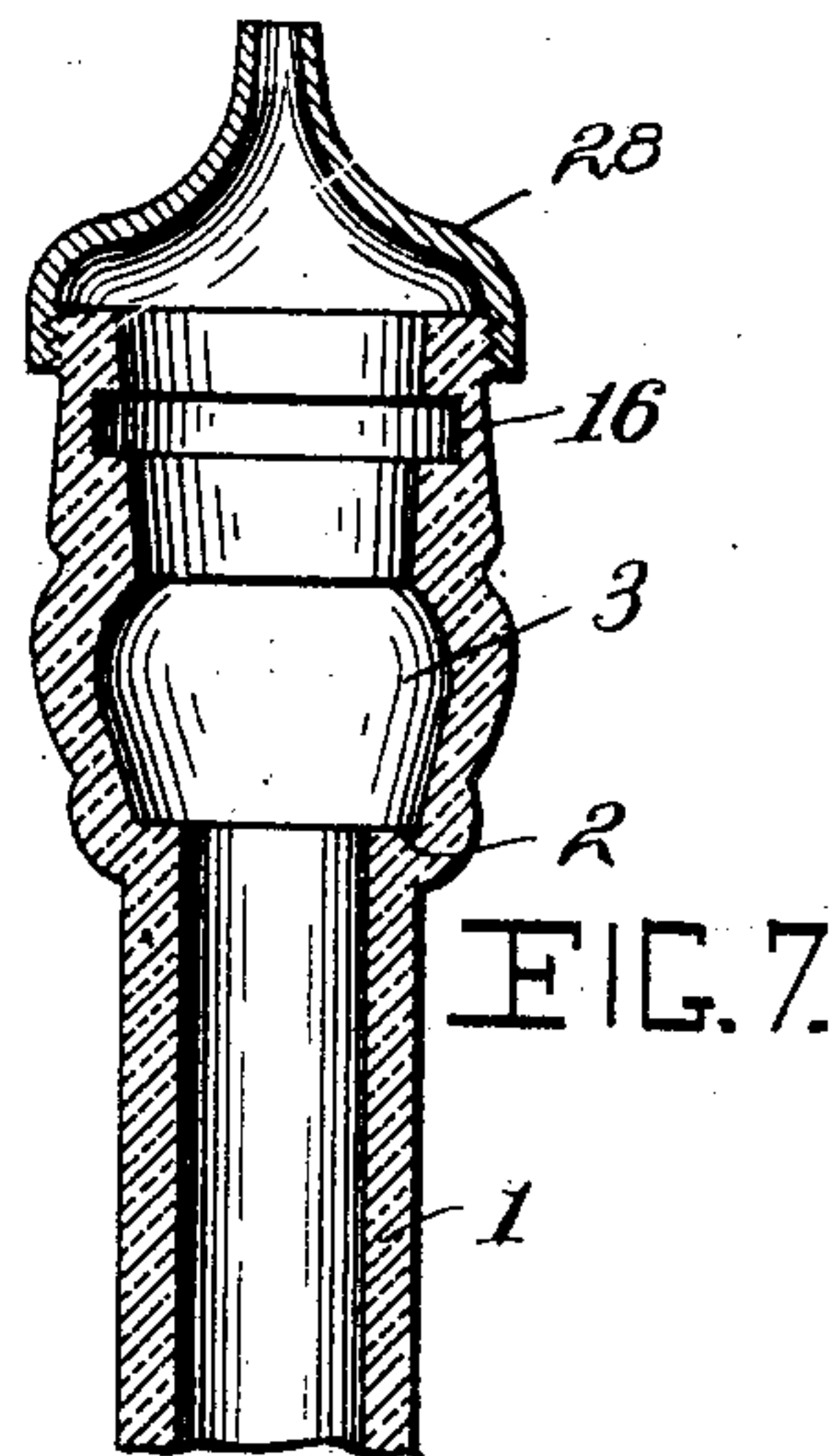
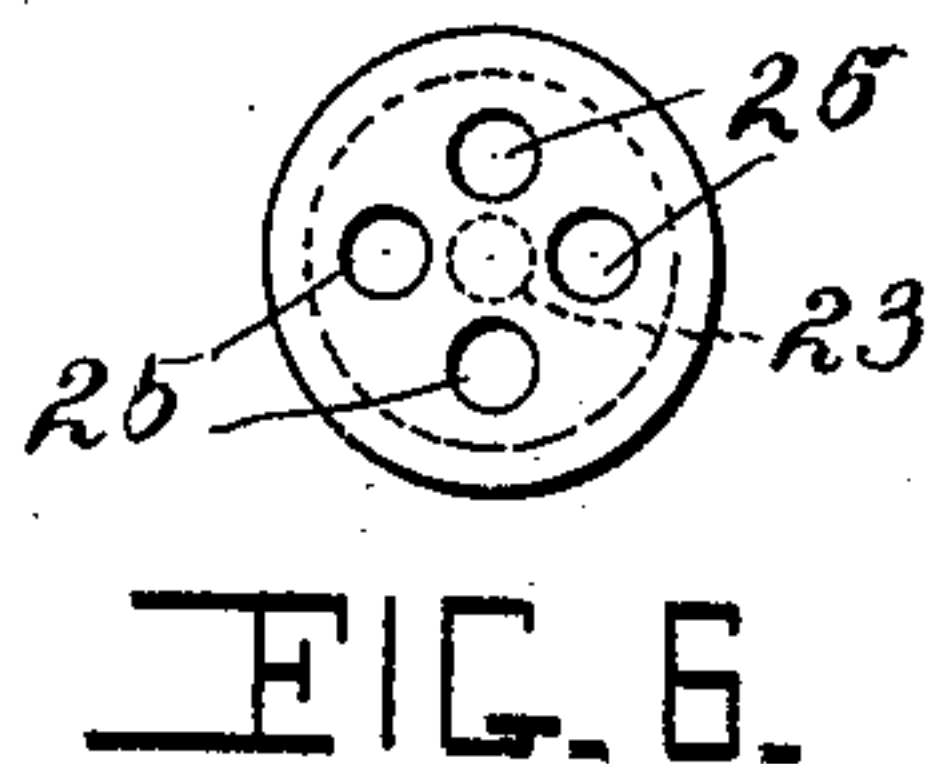
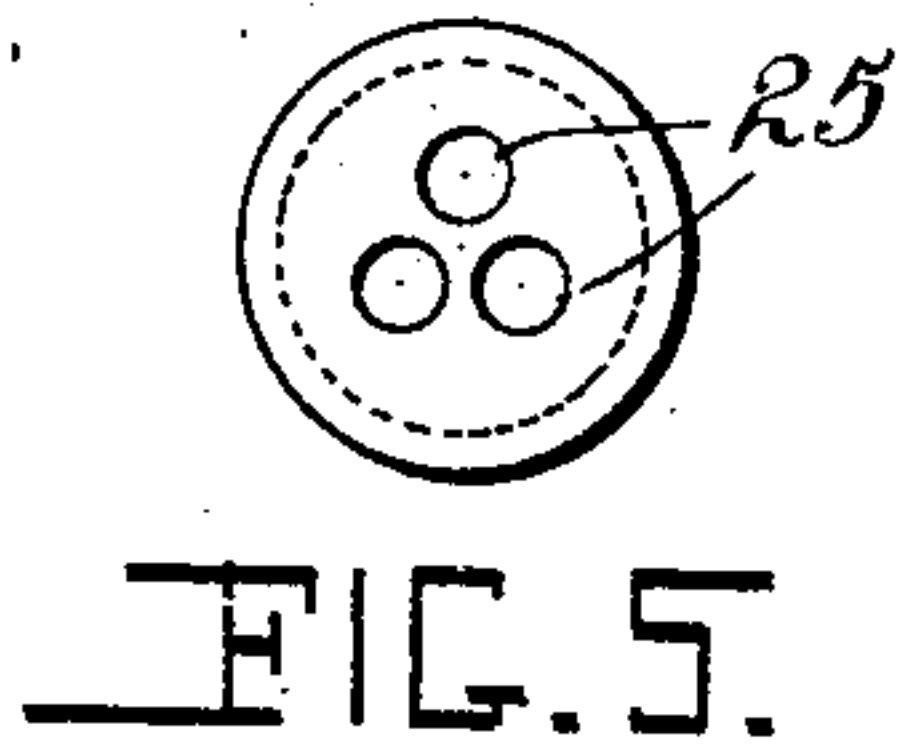
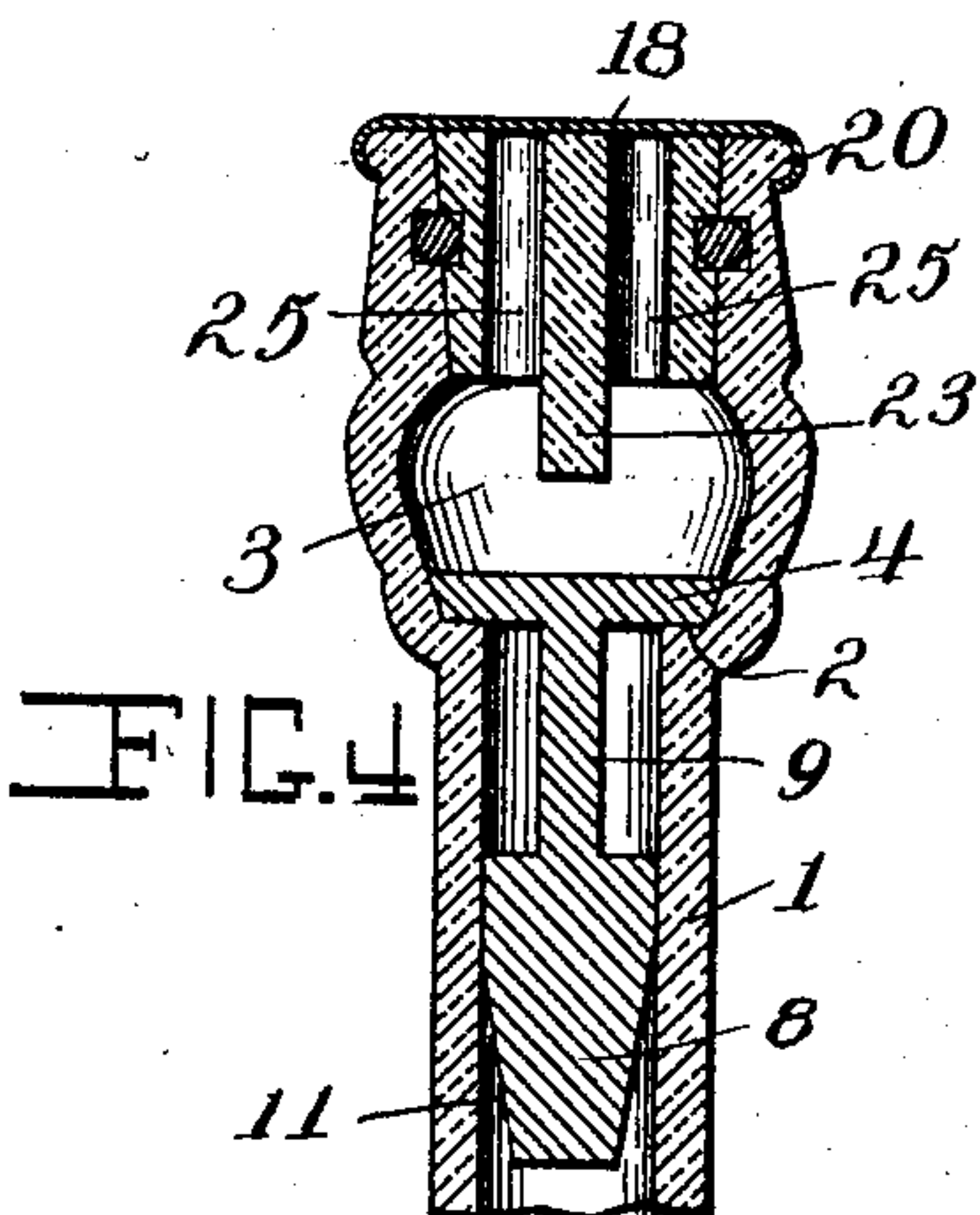
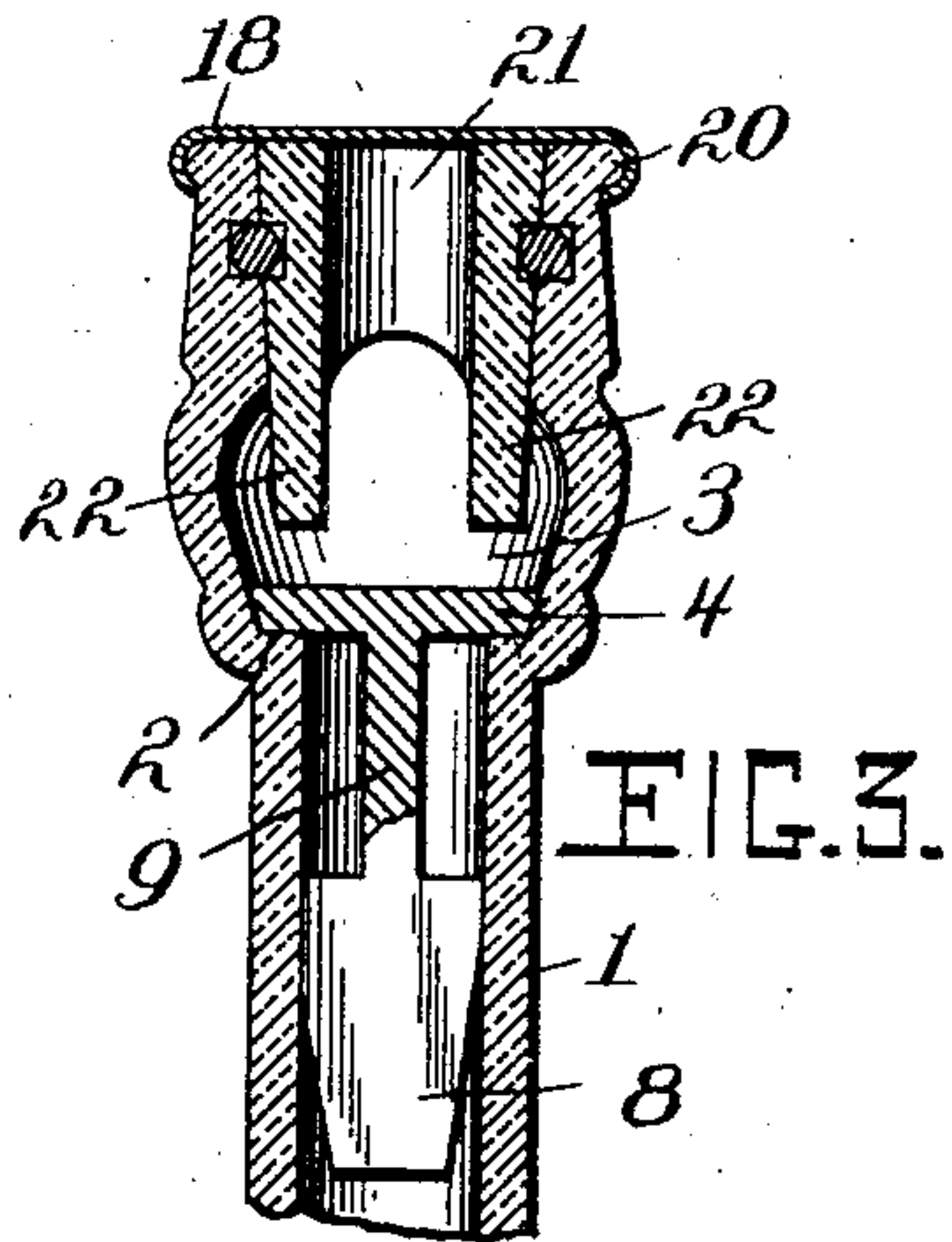
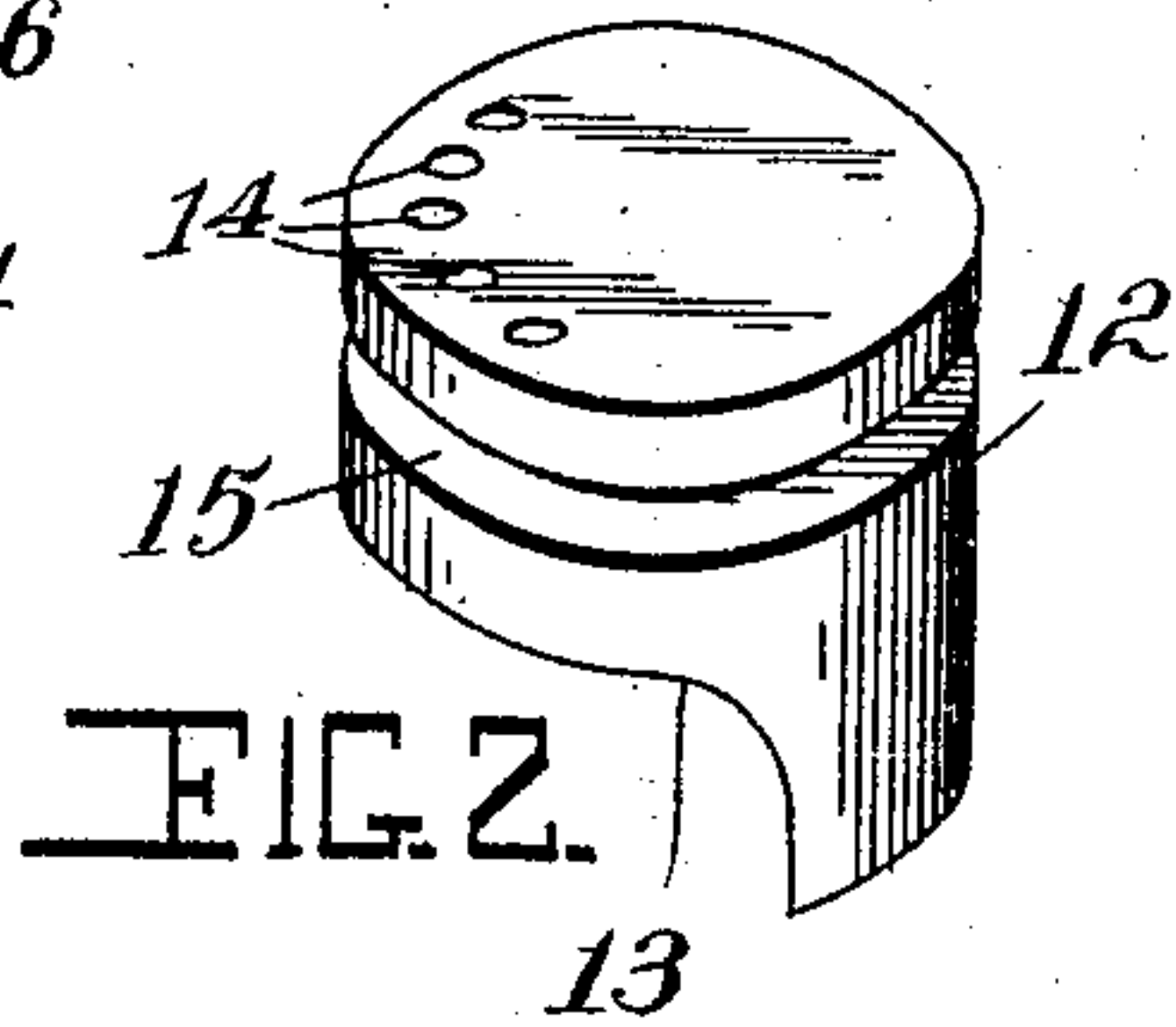
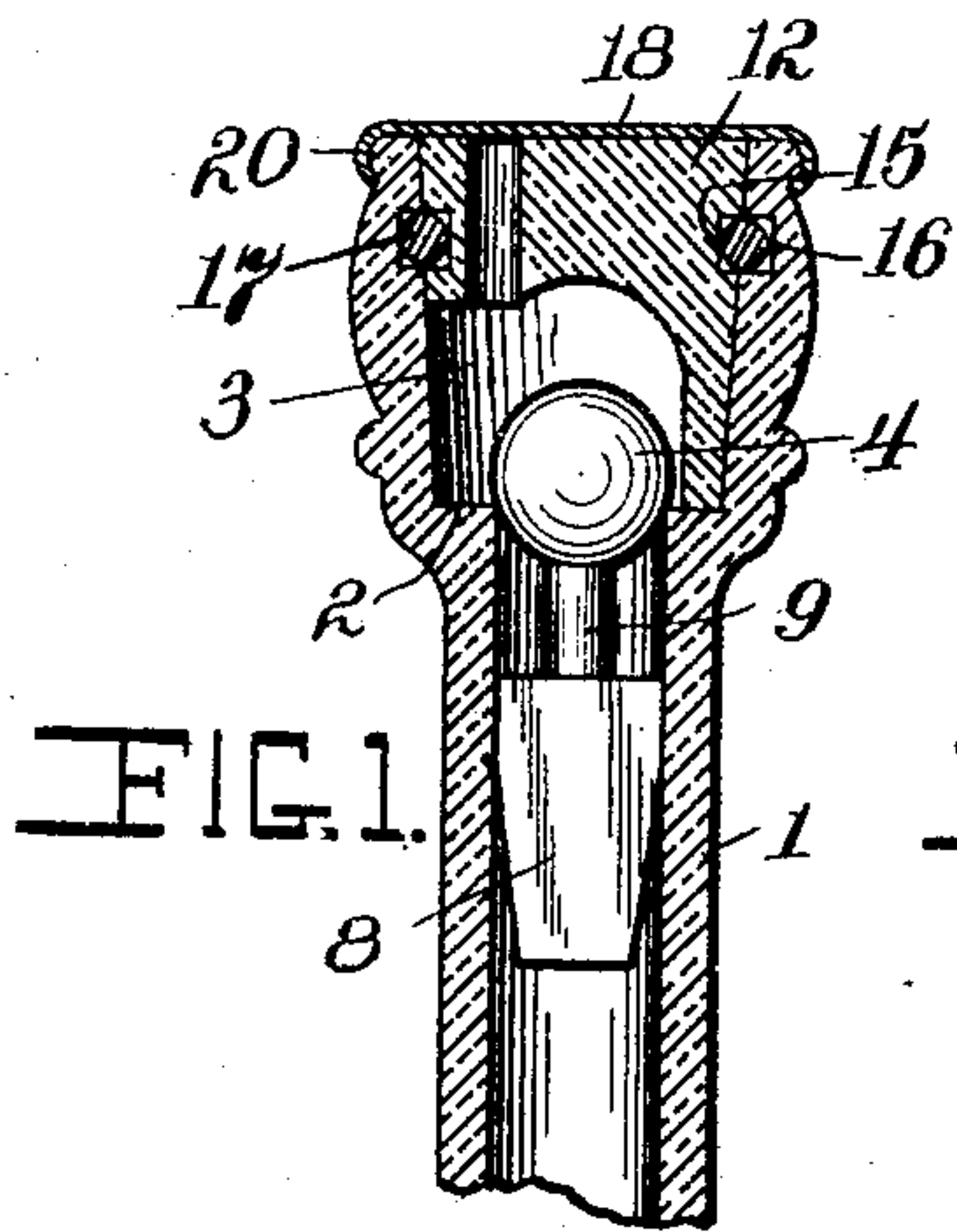


No. 771,578.

PATENTED OCT. 4, 1904.

W. F. SEIM.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JAN. 6, 1904.

NO MODEL.



Witnesses
Milton Lenoir.

Samuel E. Lodge

William F. Seim Inventor
Henry S. Brewington
by *His* Attorney

UNITED STATES PATENT OFFICE.

WILLIAM F. SEIM, OF BALTIMORE, MARYLAND.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No 771,578, dated October 4, 1904.

Application filed January 5, 1904. Serial No. 187,765. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. SEIM, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to an improvement in non-refillable bottles, the object being to provide a simple means for preventing the refilling and reuse of a bottle and at the same time afford an inexpensive construction which will efficiently perform the functions required.

With these objects in view my invention consists in a gravity valve or stopper in connection with a closure which locks into the bottle-neck and permits the limited movement of the valve, whereby to insure the reseating of the valve when the bottle is righted.

The invention further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view of my preferred form. Fig. 2 is a perspective view of the plug or closure. Fig. 3 is a modified construction, in which a single central discharge-opening is provided. Fig. 4 is a modification in which several discharge-openings are provided and a central stop for limiting the movement of the valve. Figs. 5 and 6 are plan views of stoppers, showing three and four outlet-orifices. Fig. 7 is a view showing a sprinkling-cap attached. Figs. 8 and 10 illustrate different forms of valves, and Fig. 9 shows a plug or closure.

In Fig. 1, and, in fact, Figs. 3, 4, and 7 as well, the numeral 1 represents a bottle-neck enlarged at the top to receive the parts of the bottle-stoppers, as the several figures mentioned indicate. A seat 2 for a valve is formed by an offset in the neck, immediately above which is a chamber 3. The valve 4 may be spherical, as shown in Figs. 1 and 8, and adapted to rest upon the seat 2 when the bottle is upright, or this valve may be flat and slightly tapering, as shown in Figs. 3 and 4, to fit a correspondingly-shaped seat in the bottle-neck, or it might be cylindrical, as shown in Fig. 10, with a washer 5 beneath it. This valve has a

weight 8 at the lower end of neck 9, as indicated in several of the figures, this weight preferably being flattened on two opposite sides, whereby to allow space for the liquid contained in the bottle to pass by, and the other two sides having rounded portions 10 10, adapted to fit the bottle-neck, whereby to center the weight, and consequently the valve, and insure its return in proper position to its seat when the bottle is righted. From these rounded portions 10 10 the sides preferably taper, as at 11 11, to facilitate the insertion of the valve into the bottle-neck with the original assemblage of parts.

Various different forms of plugs or closures might be employed. A few of these are illustrated in the drawings. For instance, in Figs. 1 and 2 a tapering plug or closure 12 is illustrated, it fitting a correspondingly-shaped mouth, one end extending to the valve-seat. The lower surface is chambered out, as at 13, to receive the spherical valve when the contents of the bottle is being poured. Several orifices 14 14 at one side are provided for the outlet of the liquid. Circumferential grooves 15 and 16 are formed in the plug and mouth, respectively, and a spring, rubber, or other locking device 17, confined within these grooves, locks the plug or closure in the mouth of the bottle and prevents the latter from being removed therefrom. A metal cap 18 is spun or otherwise fastened at its edges around the bead 20 to form an air-tight closure when it is desirable to seal the bottle.

In Fig. 3 the plug or closure has a central discharge-opening 21 and the depending legs 22 22 on either side, while the valve, as previously explained, is in the form of a disk or perfectly flat, these legs being adapted to permit the required movement of the valve to permit the escape of the liquid contents and constituting stops which prevent further movement.

In Fig. 4 a plug or closure is shown in which there is a central depending leg 23 with a series of, say, four, outlets 25 25 around it, as shown in Fig. 6.

In Fig. 7 a sprinkling-cap 28 is shown screwed to the outer end of the bottle, the valve and closure or plug being omitted from

the drawings, although used in practice, of course.

In Fig. 9 the plug or closure is provided with three depending legs 26 26 and three outlet-orifices 25 25, as shown in Fig. 5.

In Fig. 10 the valve is disk-shaped and has a washer 5, of rubber or other resilient material, beneath it adapted to rest upon the seat.

Obviously other slight modifications might be resorted to besides those described without material departure from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact constructions herein set forth; but,

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

1. A non-refillable bottle, the neck of which is elongated with a straight interior and is provided with a valve-seat at the upper end of the straight portion, a valve having a depending centering-weight adapted to fit the bottle-neck and also permit the passage of liquid, and a plug or closure fitted to the mouth of the bottle, having an orifice therein, means for affording a limited movement only of the valve, and means for locking the plug or closure in the mouth of the bottle.

2. A non-refillable bottle, the neck of which is straight for some distance and provided with a valve-seat at the upper end of the straight portion and also a circumferential groove, a plug or closure fitted to the mouth of the bottle and provided with a groove which with the groove in the bottle-neck receives a locking device for fastening the closure or plug in the bottle-neck, and a valve having a depending centering-weight which is guided by the straight wall of the bottle-neck.

3. A non-refillable bottle comprising a bottle-neck having a valve-seat the neck being straight and elongated for some distance below the seat, a plug or closure adapted to be locked in the mouth at the outer end of the neck and a valve adapted to rest upon the seat and provided with a centering-weight which fits the neck of the bottle and admits of the passage of the contents, said weight tapered to facilitate its entrance into the bottle-neck.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. SEIM.

Witnesses:

MURRAY HANSON,
BENJ. W. BERRY.