

Sept. 29, 1953

E. G. BRINKMAN
DISPENSING CONTAINER WITH NONDETACHABLE THREADED CAP
AND NECK, AND WITH REGISTRABLE DISPENSING APERTURES
Filed Nov. 14, 1950

2,653,735

FIG. 1

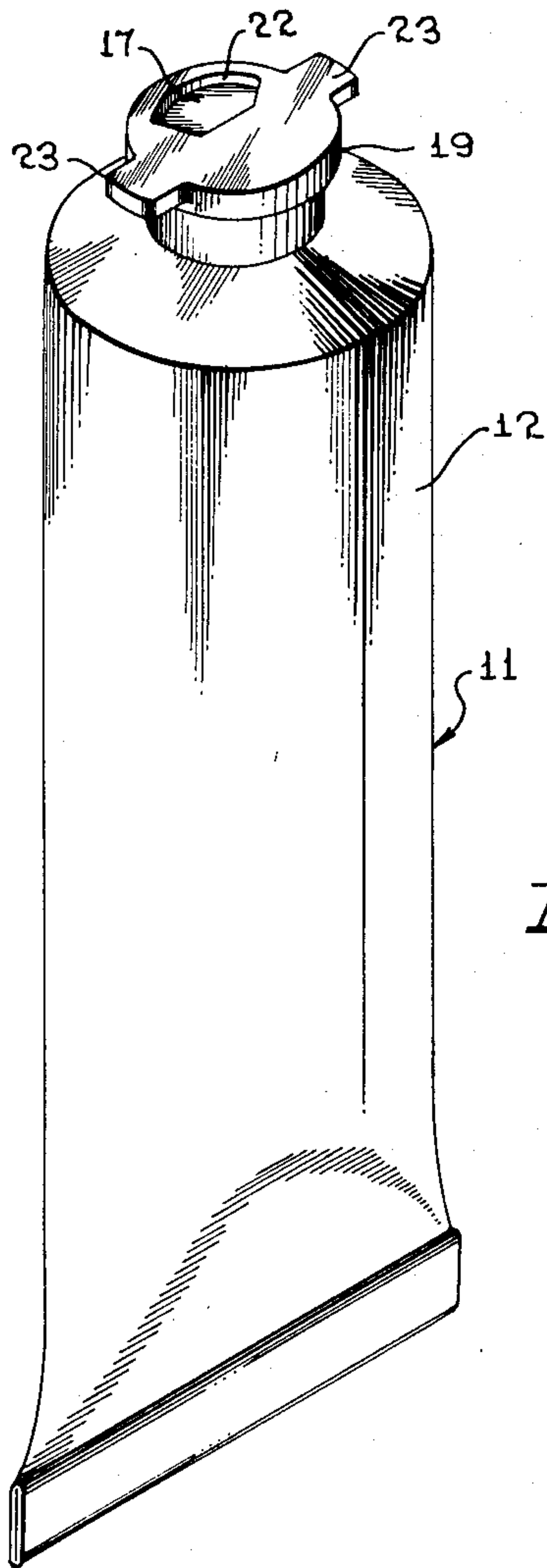


FIG. 2

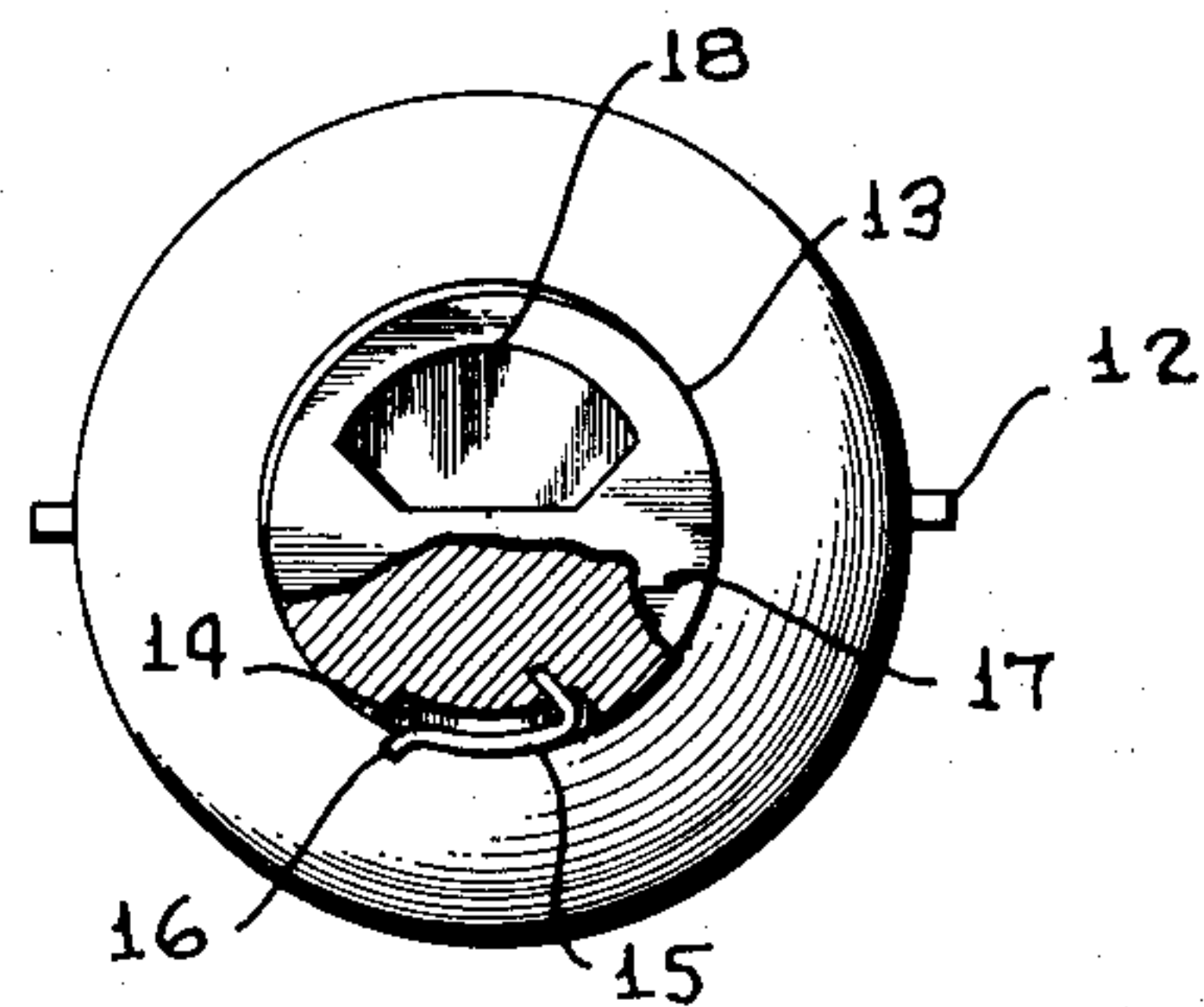


FIG. 3

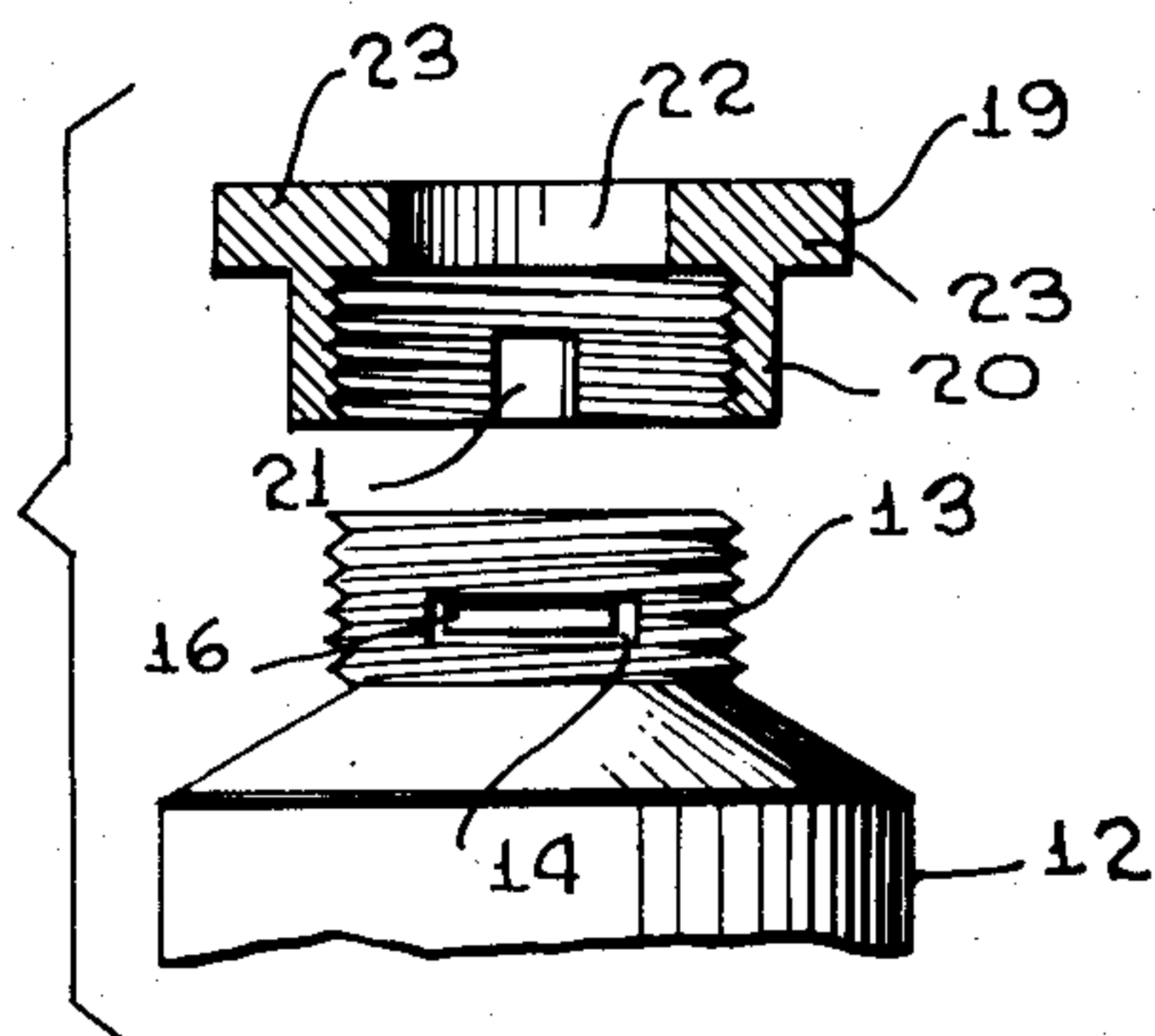


FIG. 5

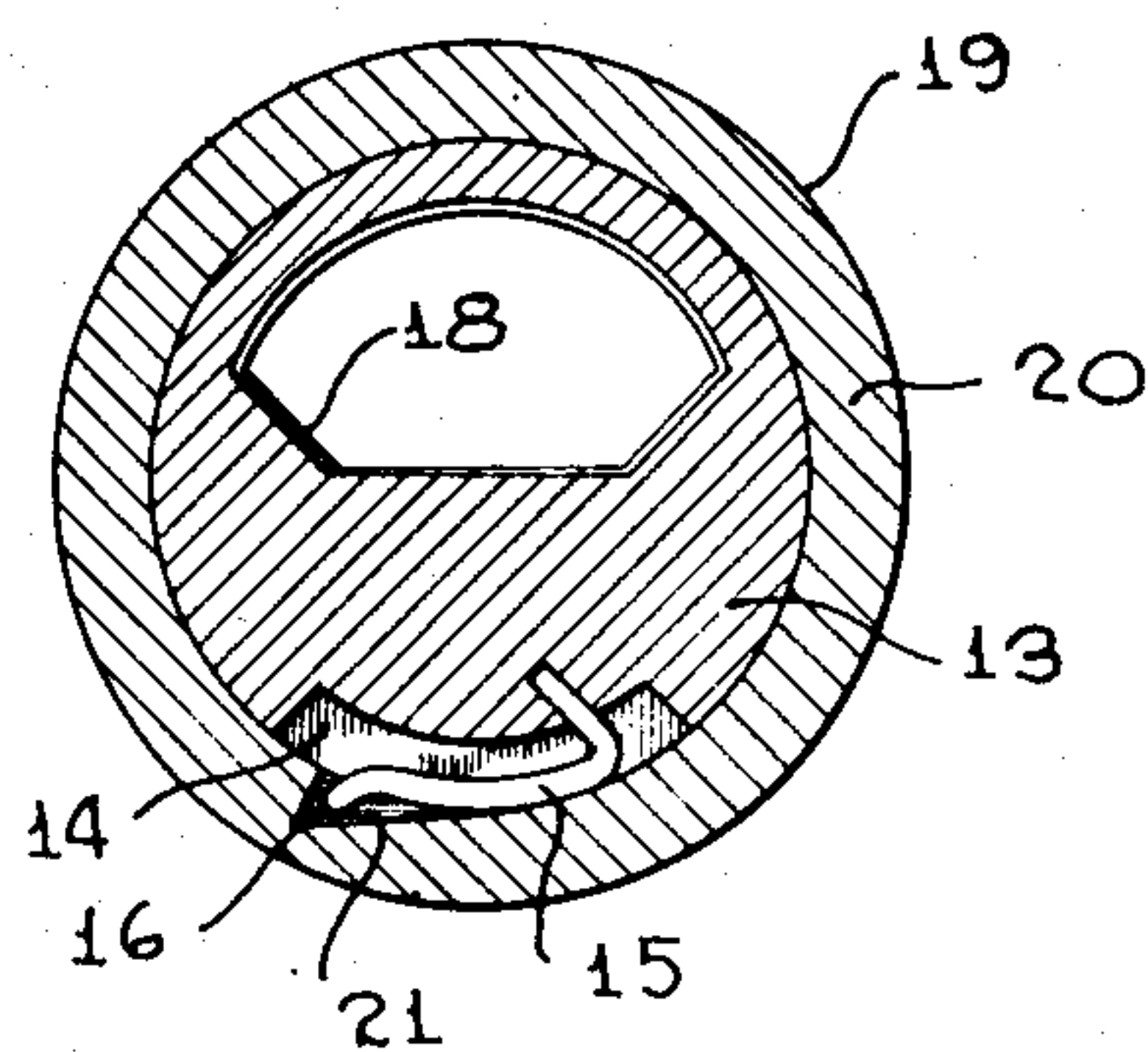
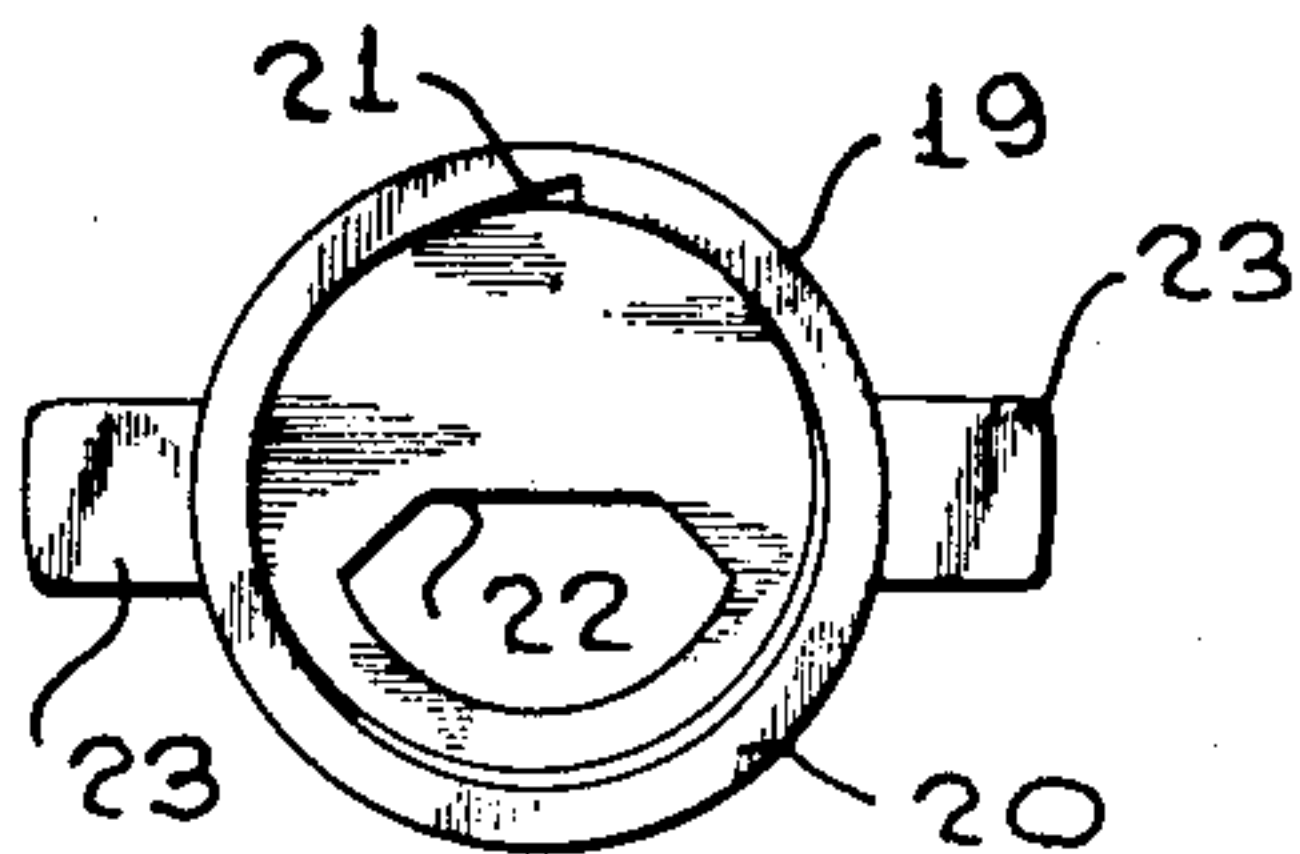


FIG. 4



INVENTOR.
ELWOOD G. BRINKMAN
BY

McMorrow, Berman & Davidson
ATTORNEYS

UNITED STATES PATENT OFFICE

2,653,735

DISPENSING CONTAINER WITH NONDETACHABLE THREADED CAP AND NECK, AND WITH REGISTRABLE DISPENSING APERTURES

Elwood G. Brinkman, Alameda, Calif.

Application November 14, 1950, Serial No. 195,656

1 Claim. (Cl. 222—520)

1

This invention relates to improvements in dispensing containers, and more particularly to collapsible containers.

A main object of the invention is to provide a novel and improved dispensing container having a cap which is movable on the neck of the container, but which is not detachable therefrom, whereby the cap cannot be lost, whereby the container may be maintained in a sanitary condition, and whereby the contents of the container may be dispensed conveniently and without waste.

A further object of the invention is to provide an improved dispensing container of the collapsible tube type, said container having an improved top cap which is retained on the container and cannot be lost, which is movable to a position wherein the contents of the container may be conveniently dispensed, which is attractive in appearance, and which can be operated easily with one hand.

Further objects and advantages of the invention will become apparent from the following description and claim, and from the accompanying drawings, wherein:

Figure 1 is a perspective view of an improved collapsible container provided with a dispensing cap constructed in accordance with the present invention;

Figure 2 is a top view of the container with the cap removed, the top portion of the container being shown partly broken away;

Figure 3 is a side elevational view of the upper portion of the dispensing container of Figure 1 and a vertical cross-sectional view taken through the cap of the container, the cap being shown separated from the container preparatory to mounting on the neck of the container;

Figure 4 is a bottom view of the cap of the container of Figures 1 and 3;

Figure 5 is an enlarged cross-sectional view taken horizontally through the cap and neck portion of the container of Figure 1.

Referring to the drawings, the dispensing container is designated generally at 11 and comprises a body portion of conventional design, said body portion being designated at 12 and comprising a tubular receptacle of readily deformable material, whereby the contents of the container may be extruded by exerting pressure on the body thereof. The body 12 is provided at its top end with a threaded neck 13, said neck being substantially solid and being formed with a peripheral recess 14 in which is secured a leaf spring 15, said leaf spring having an outwardly curved end 16 which normally projects outside the periphery

2

of the neck 13, as shown in Figure 2. By reference to Figure 3, it may be noted that the recess and spring are disposed substantially medially between opposite ends of the neck. The free end of the spring (Figure 5) is resiliently urged outwardly and radially of the neck. The top surface of the neck portion 13 is designated at 17, and the neck portion is formed with an aperture 18 having a shape such as shown in Figure 2. Designated at 19 is the cap of the container, said cap being formed with an internally threaded skirt portion 20 which is threadably engageable over the threaded neck 13 of the container body 12. The internal wall of skirt 20 is formed with a triangular notch 21, said notch being adapted to receive leaf spring 15 when cap 19 is threaded onto the neck 13, the end 16 of the leaf spring being engageable in the rear portion of the notch 21 in the manner shown in Figure 5, whereby threaded skirt 20 of the cap will become locked with respect to threaded neck 13 after cap 19 has been threaded onto the neck. The upper end of the notch is located substantially medially between opposite ends of the threaded internal surface of the cap, and the notch extends fully to the lower end of the cap. As shown in Figure 5, the arrangement of the spring 15 relative to the notch 21 is such that the cap 19 may be rotated clockwise, as viewed in Figure 5, to some degree, with respect to the neck 13, but may not be rotated counterclockwise beyond the limiting position shown in Figure 5. The top wall of the cap 19 is formed with an aperture 22 which is registrable with the aperture 18 when the cap is in the limiting position shown in Figure 5. The contents of the container may be extruded therefrom by applying pressure thereto when the cap 19 is in the position shown in Figure 5, namely, in a position wherein the aperture 22 registers with the aperture 18. To seal the container, the cap 19 is merely rotated clockwise, as viewed in Figure 5, to displace the apertures 22 and 18 from positions of registry. To facilitate rotation of the cap 19, the cap is provided with the diametrically opposed, outwardly extending, integrally molded lugs 23, 23.

It will be apparent that the container may be opened and closed by the fingers of the hand which holds the container, whereby the contents of the container may be extruded onto a toothbrush or other object held by the other hand of the person using the container. It will be further apparent that the cap of the container cannot be lost, since it is not possible to detach the cap from the container after it has once been

3

threaded on the neck portion of the container.

It will also be apparent that after the cap has been partially threaded downwardly upon the neck of the container, the spring finger 15 will be coplanar with the lower end of the notch 21. However, due to the medial location of the spring finger and the length of the notch, continued rotation of the cap in the same direction is permitted until the ends of the cap and neck are in contact with one another. Thereafter, rotation of the cap in an opposite direction is limited by engagement of the outwardly urged free end of the spring finger within the notch 16. It is believed worthy of note in this connection that in view of the radially swingable mounting of the spring finger, there is at no time any resistance to threading of the cap downwardly upon the neck into the desired tight engagement with the end of the neck.

While a specific embodiment of an improved dispensing container has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claim.

What is claimed is:

A dispensing container comprising: a hollow body portion having at one end a solid, cylindrical neck threaded externally throughout its length and formed to a reduced diameter reduced relative to that of the body portion to define a stop shoulder at the base of the neck, said neck having an elongated, narrow recess formed in its threaded surface and said recess having its length extended normally to the axis of the neck through a part of the circumference of the neck, said recess being disposed intermediate the ends of the neck with that longitudinal edge of the recess nearer the base end of the neck being spaced a substantial distance away from said base end and the other longitudinal edge of the recess spaced correspondingly from the other end of the neck, said neck having an opening extending from end

4

to end thereof and communicating with the interior of the body portion for dispensing of the container contents through the neck, said opening being disposed diametrically opposite said recess; a thin leaf spring extending longitudinally of the recess and having one end anchored in the material of the neck at one end of the recess, the other end of the spring being free and curved outwardly from the recess, said spring being tensioned to normally bias said free end outwardly beyond the periphery of the neck along a line substantially radial of the neck; and a closure cap including an internally threaded skirt portion engageable with the threads of the neck and provided with an angular notch adapted to receive said free end of the leaf spring when the cap is threaded in the direction of the stop shoulder, said notch of the recess having an end wall disposed approximately radially of the neck to limit rotation of the cap in one direction when the leaf spring is engaged in the notch, the notch when considered in the direction of its length extending in parallelism with the axis of the neck from one end of the skirt portion to a location intermediate the ends of the skirt portion, said cap including an end wall at its other end formed with an aperture disposed diametrically opposite the notch to register with the opening of the neck in the notch-engaged position of the spring, said cap being threadable in one direction into engagement with the stop shoulder to seal said body portion, and being limited against rotation in an opposite direction by engagement of the spring against the end wall of the notch.

ELWOOD G. BRINKMAN.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,031,639	Funderburg	July 2, 1912
1,371,639	Miller	Mar. 15, 1921
1,497,617	Tschiffely	June 10, 1924
1,544,132	Cook	July 30, 1925
2,146,993	Schroeder	Feb. 14, 1939