Oct. 23, 1934. N. L. ULM 1,977,869

COLLAPSIBLE CONTAINER

Filed Aug. 20, 1932

Fig. 1.

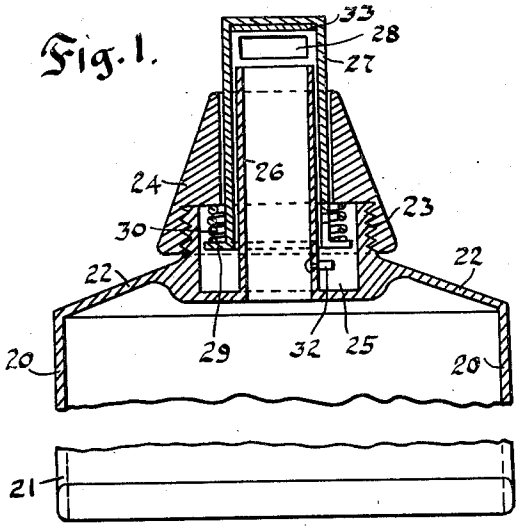


Fig. 2.

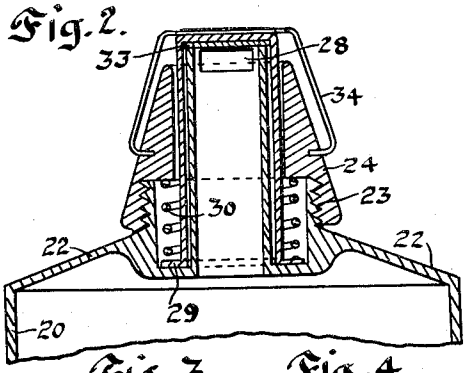


Fig. 3.

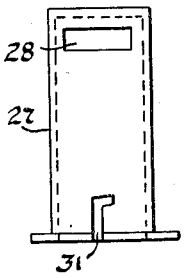
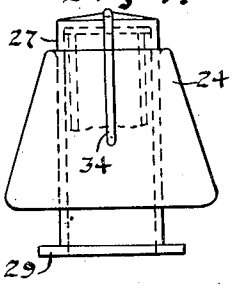


Fig. 4.



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UNITED STATES PATENT OFFICE

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COLLAPSIBLE CONTAINER

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Application August 20, 1932, Serial No. 629,662

1 Claim. (Cl. 221—60)

Heretofore collapsible containers or tubes such as are used for containing and dispensing tooth-paste, paint, ointment, and for a great many other materials, have been made with a top or cover consisting of a loose member adapted to be attached to the said container. The usual method of attaching this loose cover is by means of a screw thread on both the container and the cover. These covers are frequently lost or misplaced with the result that the material in the container becomes exposed to the air and is thereby deteriorated, and also that the material exudes from the container and is wasted, also in many cases causing damage to other articles with which it comes in contact.

The purpose of my invention is to provide a means whereby the cover of such a container either cannot or need not be detached, and at the same time provide an automatic feature which will allow the material to be squeezed out of the said container and one which will automatically close the discharge opening as soon as the pressure is removed from the tube. Provision is also made for an auxiliary cover or other means which although non-detachable can be readily set to open or close the discharge opening and thus prevent the escape of the material by accidental pressure such as might occur when the container is packed in contact with other articles, as for example, in a suit case or traveling bag.

I accomplish these objects by means of the mechanisms illustrated in the accompanying drawing in which: Figure 1 is a vertical central section of a collapsible container with its valve in the open or discharge position. Figure 2 is a vertical central section of the same type of container with the valve in the closed position and with the addition of a spring wire lock. Figure 3 is a side elevation of the valve showing the discharge port and the method of locking. Figure 4 is a side elevation of the valve and sleeve with the valve locked in its closed position. Similar reference numerals refer to similar parts in the several views.

The construction of my device is as follows: 20 is the upper end of a collapsible container, the lower end being shown as 21. The upper end of the container is closed by the wall 22 ending in a circular boss 23 which is threaded to receive the sleeve 24. The interior of the boss 23 is provided with an annular depression 25 having centrally located and preferably integral therewith a tube 26 which is open at its upper end. Adapted to slide on the tube 26 is a sleeve valve 27 having a closed upper end provided with a discharge port on one side of the said valve. The lower end of the valve 27 has a flange 29 to be acted upon by a coiled spring 30 which is located between the said flange 29 and the recessed lower end of the sleeve 24. The lower end of the valve 27 has a slot 31 to receive a pin 32 which is secured to or may be integral with the tube 26. The co-action of the slot 31 and the pin 32 forms a so-called "bayonet lock", so that when the valve 27 is pressed down and turned it will draw the said valve downwardly to a tight seat on top of the tube 26. To prevent possible leakage, a disc of cork or other suitable material 33 may be inserted inside the upper end of the valve 27. In order to prevent the accidental operation of the container, it may be locked by means of the spring wire 34 which is pivoted in the sleeve 24 and which may be swung up over the top of the valve 27, resting in a groove across the said top.

The operation of my device as shown in Figures 1 to 4 inclusive is as follows. The container being filled with the material to be dispensed and the valve 27 being depressed by the action of the spring 30, the spring wire 34 is releasedd and pressure applied to the lower part of the container. This forces the material against the inside of the valve 27 thus raising it until the discharge port 28 is uncovered, whereupon continued pressure causes the material in the container to exude through the said port. When the pressure on the container is relieved, the spring 30 acting on the flange 29 returns the valve 27 to its closed position with the discharge port 28 below the top of the tube 26. Then if desired, the spring wire lock may be swung into the position shown in Figures 2 and 4, thus preventing any accidental opening of the valve 27.

What I claim as my invention and desire to secure by Letters Patent is:

A collapsible container ending in a tubular chamber, a tubular valve closed at its exterior end and open to the interior of the container on its inner end, said valve being adapted to slide and seat on said tubular chamber, a port in said valve for the extrusion of material in the container and adapted to be uncovered by pressure applied to the said material; a sleeve detachably connected to the upper end of the container and a coil spring adapted to coact between the said sleeve and a flange on the lower end of the said tubular valve for the purpose of normally seating said valve and covering said port.

NATHAN L. ULM.