

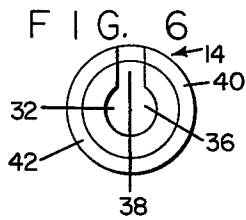
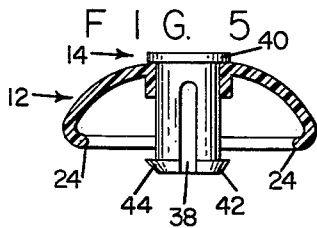
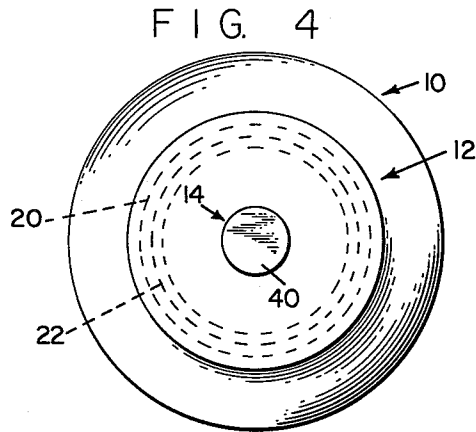
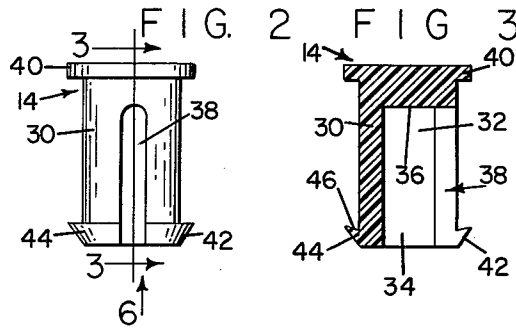
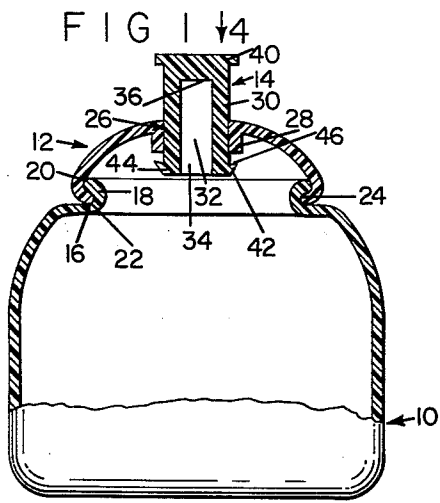
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METERING DEVICE FOR POWDERS AND THE LIKE

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3,197,091

## METERING DEVICE FOR POWDERS AND THE LIKE

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1 Claim. (Cl. 222-522)

This invention relates to a new and improved metering device for dispensing of powders and like materials from containers, and the principal object of the invention resides in the provision of a device of this nature in which there is a slidable closure having a hollow interior to be used for measuring amounts of powder to be dispensed, the closure moving in a telescopic manner in and out of a bottle cover and having means providing for it to be completely captive and not to become accidentally separated from the container or from the bottle cover in which it is located.

Another object of the invention resides in the provision of a bottle cover which is itself easily snapped onto the container so that the same can be filled, and then the assembled closure cap and bottle cover fitted onto the container which is then ready to use merely by for instance inverting the same to fill the chamber in the closure with the powder or similar material, and then upon extracting the closure to a certain limited degree, allowing the contents to be dispensed into the hand, container, tooth brush, etc. as may be desired.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which:

FIG. 1 is a view partly in section illustrating the construction of the device;

FIG. 2 is a view in elevation of the closure per se;

FIG. 3 is a cross sectional view of the closure on line 3-3 of FIG. 2;

FIG. 4 is a plan view looking in the direction of arrow 4 in FIG. 1;

FIG. 5 is a sectional view showing the bottle cover with the closure cap in closed position, and

FIG. 6 is a bottom view of the closure cap looking in the direction of arrow 6 in FIG. 3.

The invention resides in three main parts, a container 10, a cover therefor 12, and the closure cap 14. These parts are preferably made of plastic for instance with the characteristics of polyethylene giving desired low friction properties as well as good moisture vapor protection for the contents which in this case are comminuted, granulated or powdered materials and the like.

The container 10 is open at its top edge which is indicated at 16 and it has an annular or similarly shaped inwardly directed bead 18 with an outwardly directed rim 20 forming an annular channel 22.

The cover 12 is preferably dome-shaped and formed to fit the opening of the container 10, having an inwardly directed rim 24 at the edge thereof which is of a diameter slightly less than the rim at 20 and snaps past the same into the groove 22, making a moisture-tight connection therewith. This allows the container to be filled and the cover 12 thereafter quickly and easily applied thereto by snapping the mating parts 20 and 24 past each other as clearly shown in FIG. 1.

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The cover 12 also has a generally central opening as at 26 defined by a downturned generally annular rim 28 forming a guideway for the closure cap which can slide in and out with relation thereto as a comparison of FIGS. 1 and 5 will clearly show, FIG. 5 showing the closure cap in closed position, FIG. 1 showing it open.

The closure cap itself is a cylindrical member having a main body portion 30, which is generally hollow forming a chamber 32. This chamber is open at one end as at 34 and closed at the other end as indicated at 36 in FIG. 3. Also it is provided with a longitudinal slot 38 which is coextensive with chamber 32.

The closure cap has an outwardly projecting end lip element 40 at its outermost end and an outwardly projecting end lip element 42 at its innermost end. These members are preferably annular also and form outstanding rims or the like. That at 42 may be tapered as at 44 and undercut as at 46.

When the closure is depressed so that the rim or lip 40 rests on the bottle cover it seals the same from allowing the accidental discharge of any of the contents thereof, and the lip at 42 contacts the rim 28 and prevents the closure cap from escaping from the cover. The closure cap is easily assembled to the cover by aligning the lip 42 with the opening 26 and forcing the cap inwardly, snapping the lip 42 past the rim 28, the inner diameter of which is less than the diameter of lip 42, and the cap is therefore permanently attached to the cover but can rotate and slide in the opening at 26.

The container 10 is first supplied with the powder to be dispensed and then the assembled cap and cover is snapped into place. By pushing in the cap and inverting the container, the chamber 32 is filled. Then the cap is pulled out, and the powder is dropped out through slot 38, and a pre-measured amount of powder, etc. is provided.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

A dispensing container for powdered materials and the like comprising a main container body portion of plastic, said container having an entrance opening for filling it, a one-piece plastic cover for said opening, interengaging means for securing the cover to the container closing the latter, and an elongated one-piece closure cap, said cover having an opening therein slidably receiving said closure cap and conforming to the exterior surface of the cap, fitting the same closely, said closure cap being generally hollow and including a wall forming a chamber therein, said chamber being open in an end portion thereof forming a passage leading to the interior of the container, a slot in a wall of said closure cap, said slot intersecting said chamber and serving to provide for emptying said chamber to a predetermined amount, and an integral lip at each end of said closure cap, both lips defining an area greater than that of the opening, one of said lips being exterior of the cover and the other lip being at the other end of the closure cap and at the interior of the cover, preventing extraction of the closure cap from the cover, the first-named lip serving to substantially seal the opening in the cover

about the closure cap to prevent accidental escape of materials from the container and also preventing the cap from being pushed into the container, the interengaging means between the cover and the entrance opening of the container comprising a rim at the periphery of the cover and a cooperative lip at the opening of the container, said rim and said lip being proportioned so that they must snap past each other in assembling the cover to the container.

## References Cited by the Examiner

## UNITED STATES PATENTS

2,772,037	11/56	Rieke	222—522	X
2,790,582	4/57	Halpern	222—522	X
2,805,800	9/57	Malick et al.	22—519	
3,157,323	11/64	Kitterman	222—212	X

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