Oct. 21, 1958 E. O. KRAEPELIN 2,857,068

CONTAINER CLOSURE

Filed Dec. 1, 1953

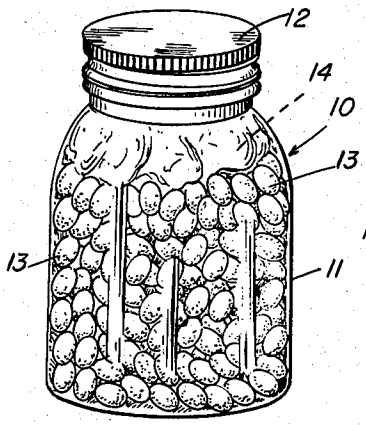


FIG. 1

FIG. 2

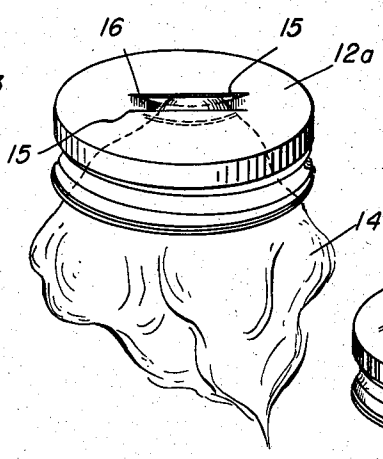


FIG. 3

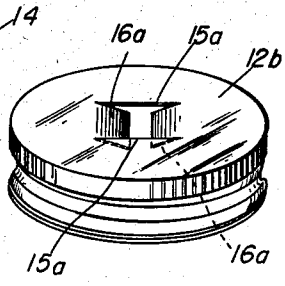


FIG. 5

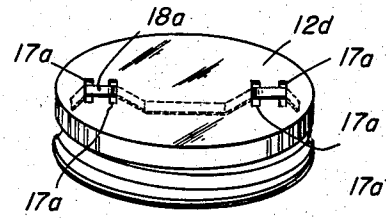


FIG. 6

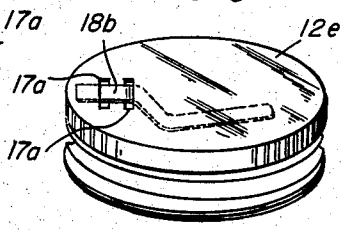


FIG. 8

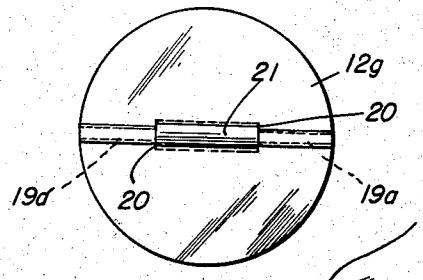
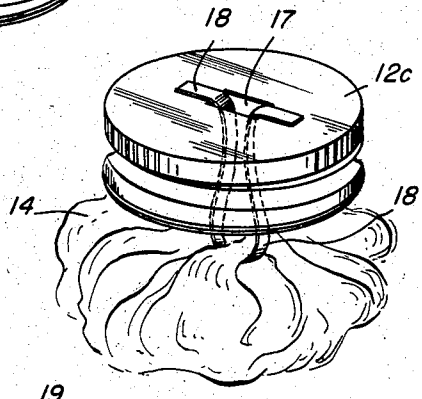


FIG. 4



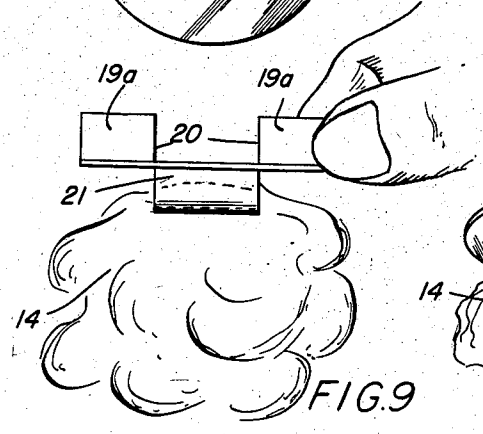


FIG. 9

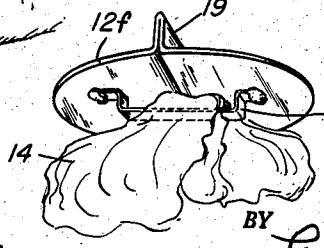


FIG. 7

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CONTAINER CLOSURE

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Application December 1, 1953, Serial No. 395,344

1 Claim. (Cl. 215—37)

This invention relates to containers, and more particularly to containers for discrete elements. The invention is especially useful in its application to bottles or jars in which pills, tablets or capsules are packed, to which use, however, it is not restricted.

This application is a continuation-in-part of my copending patent application Serial No. 313,765, filed October 8, 1952, for "Bottle Top" and now abandoned.

Many types of discrete elements are fragile and have a tendency to break, crumble or pulverize when loosely packed in containers which are subjected to movement incidental to handling and transportation. To prevent such breakage, crumbling or puuverization, it is usual to place a packing in the upper part of the receptacle. A packing, so disposed, prevents movement of the elements in the container and thereby eliminates the danger of breakage, crumbling or pulverization.

Where such packing is separately inserted into the top of a container, difficulty may be encountered in removing the packing prior to removing one or more elements from the container. The time-consuming inconvenience of removing cotton from the upper part of a new bottle of pills, tablets or capsules is a matter of almost universal experience.

I have now found it possible to attach a packing immediately to a unitary closure for a container, whereby the receptacle is closed. Thus, the packing which holds the discrete elements immobilized within the receptacle may by completely removed with the closure without separate effort.

According to the invention a unitary closure is provided for the container, and the packing which immobilizes the units in the receptacle is attached immediately thereto. Thus, the packing is automatically removed from the receptacle when the cover is removed therefrom. Furthermore, by attaching the packing directly or immediately to the closure, there is but one point at which the packing may be separated therefrom. By concentrating upon this single point of attachment, it is possible to make more certain of reliable action than would be the case where the packing is carried by a dependent sequence of successively attached units.

The invention is shown by way of illustration in the accompanying drawings in which—

Fig. 1 is a perspective view of a container for discrete elements having its closure screwed in place upon the receptacle, with a packing in place above the discrete elements;

Fig. 2 is a perspective view of a closure in the form of a cap or bottle top with a packing attached thereto;

Fig. 3 is a similar perspective view showing another attachment means provided upon a unitary closure;

Fig. 4 is a similar perspective view illustrating still another attachment means with a packing carried thereby;

Figs. 5 and 6 are similar perspective views illustrating two different attachment means fixed to the unitary closure;

Fig. 7 is a perspective view illustrating still another form of unitary closure with a packing attached thereto;

Fig. 8 is a bottom view of a unitary closure according to the invention, the closure being constructed and arranged in still different manner for attachment of a packing thereto; and

Fig. 9 is an elevation of the closure illustrated in Fig. 8.

In the embodiment of the invention which is illustrated in Fig. 1, there is shown a container **10** comprising a receptacle **11** and a closure **12** therefor. As here shown the receptacle **11** is a jaw formed of transparent material wherein discrete elements **13** are contained. The top of the receptacle is threaded and the closure **12**, here illustrated, is correspondingly threaded in order to fit snugly over the top of the receptacle. Thus the closure **12** is formed to fasten upon the receptacle **11**.

A packing **14** is shown in Fig. 1 as filling the top of the receptacle **11** to immobilize the elements **13** therein. According to the invention, the packing **14** is immediately attached to the inner surface of the closure **12** as by a drop of adhesive, solder, or the like (not shown).

In the embodiment illustrated in Fig. 2, the closure **12*a*** is a threaded cap engagable with the threaded open end of the receptacle **11** to close it in well-known manner. The closure is perforated, as by parallel slits **15**, **15**, between which the material of the closure is depressed as at **16**, thereby deforming the closure to provide means for attaching the packing **14** directly thereto. Thus, it is merely necessary to draw a portion of the packing **14** over the depressed portion **16** and entirely beneath the top of the cap in order to attach the packing **14** immediately to the cap. The depressed portion **16** accordingly constitutes effectively attachment means positively fixed to the closure.

The closure **12*b*** illustrated in Fig. 3 is similarly formed, except for the fact that the depressed portion of the closure **16*a*** is not continuous. However, such depressed portion provides attachment means for the packing **14**, in a manner which will be obvious. The portions of the closure **16*a***, like the depressed part **16** also constitute effectively attachment means positively fixed to the closure. A sufficient thickness of the packing, wedged beneath the top of the cap **12*b*** and between the depressed parts **16*a***, **16*a*** holds the packing **14** securely attached to the closure.

In Figs. 4, 5, and 6 the closure is perforated to accommodate a strap, clip or the like for holding the packing to the closure. Thus, in Fig. 4 a perforation **17** is formed centrally of the closure **12*c*** and a stirrup-like strap **18** projects through the perforation **17**, having its ends bent oppositely over the top of the closure and extending downwardly in a loop **18** through which the packing **14** is drawn. So far as screwing and unscrewing the closure **12*c*** upon the receptacle **11** is concerned, or removing the closure from the receptacle, the strap **18** is positively fixed to the closure.

The embodiment illustrated in Fig. 5 employs, in place of the depressed material **16**, a strap or clip **18*a*** firmly fixed to the underside of the closure **12*d***. As here shown, the opposite ends of the strap or clip **18*a*** are held to the closure by means of pairs of parallel rectangular perforations **17*a*** diametrically displaced from one another and positioned adjacent the rim of the closure. Each end of the strap **18*a*** may thus project outwardly of the closure through one of a pair of perforations and inwardly of the closure through the adjacent perforation of the pair to hold the strap **18*a*** in place, thereby positively fixing the strap **18*a*** to the closure. The packing **14** is then drawn through the space between the central portion of the strap **18*a*** and the underside of the closure **12*a*** in obvious manner.

In the embodiment illustrated in Fig. 6, a clip **18*b*** has

one end thereof positively fastened to the closure **12***e* by projecting through a pair of perforations **17***a* in the manner already described in connection with Fig. 5. The other end of the clip **18***b* is not supported but is bent toward the underside of the closure **12***e* against which it may rest; and the packing **14** may be held by the clip **18***b* against the underside of the closure **12***e*.

The closure **12***f* illustrated in Fig. 7 is formed of a sheet of suitable material centrally folded to provide a unitary handle **19**. The final form of the closure is circular and, of course, requires separate attaching means to hold it in place upon the rim of the receptacle with which it is designed to cooperate. In this embodiment a strap or clamp **18***c* is fixed beneath the closure **12***f* by adhesive means or otherwise, and extends sufficiently away from the underside of the closure to provide a space through which the packing may be drawn as heretofore described. It is obvious that the clamp **18***c* may be fabricated of any suitable material and that the handle portion may be dispensed with.

Still a different embodiment of the invention is illustrated in Figs. 8 and 9, wherein a closure **12***g* is formed somewhat similarly to the closure **12***f* illustrated in Fig. 7. The sheet material of which the cap or closure **12***g* is formed is suitably slotted transversely, as at **20** so that two unitary handle portions **19***a*, **19***a* may extend upwardly from the closure **12***g* when in final form, while a central portion **21** is turned downwardly between the two unitary handle portions and is bowed into open position so that the packing **14** may be pulled through the loop so formed, to be held in place beneath the closure.

From the foregoing it will be evident that the invention provides a closure whereby packing inserted in a container for discrete particles may be removed with the closure of the container. The packing is attached directly or immediately to the closure from which it may be separated at but one point. In consequence, the possibilities of breakage and disturbance of the connection of the packing to the closure are not multiplied as is the case where a series of connections, in dependent sequence, is necessary in so attaching the packing. In all forms of the invention here illustrated, the construction is simple, easily formed and easily maintained.

The forms of the invention here described and illustrated are presented merely as examples of how the invention may be applied. Other forms and embodiments of the invention, coming within the proper scope of the appended claims, will, of course, suggest themselves to those skilled in the art.

I claim:

A container for discreet elements comprising a receptacle having an opening therein, a unitary closure for seating over said opening, said closure comprising a circular disk formed from an elongated blank having semi-circular ends, said blank being gathered to form a medial transverse pleat, said pleat being severed transversely by a pair of spaced parallel slits, the portion between the slits being pressed downwardly to form a loop and the remaining portions of the pleat outwardly of the slits being pressed upwardly to form a handle thereon and packing pulled through said loop depending in said container to hold immobile discreet articles therein.

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