June 20, 1967 J. M. LYON, JR 3,326,360

PUSH BUTTON CONTAINER FOR CAPSULES AND TABLETS

Filed May 25, 1964 3 Sheets-Sheet 1

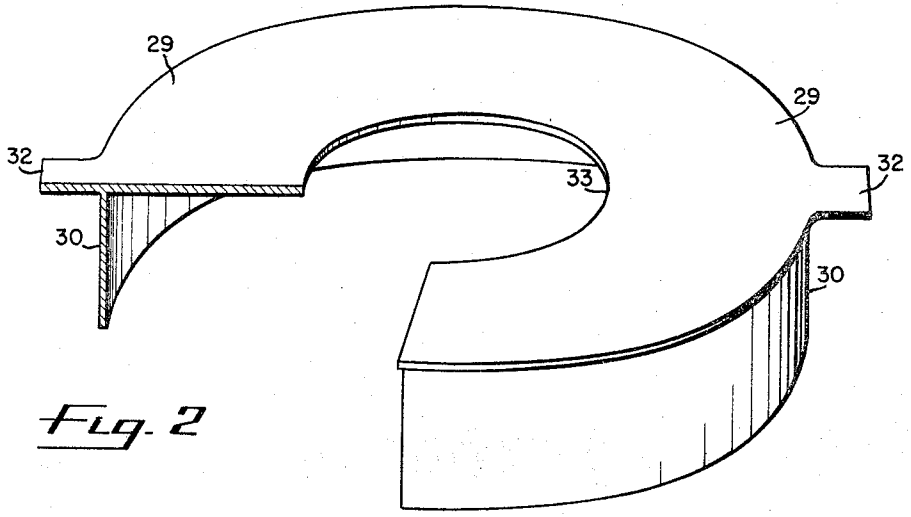


Fig. 2

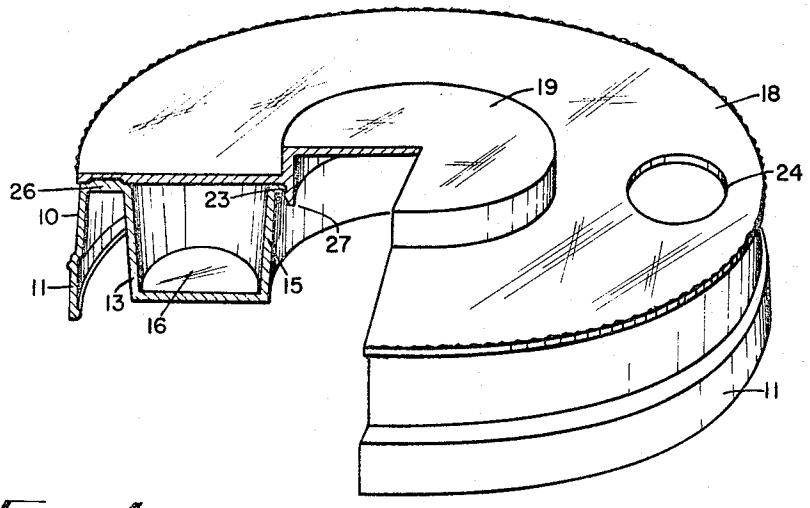


Fig. 1

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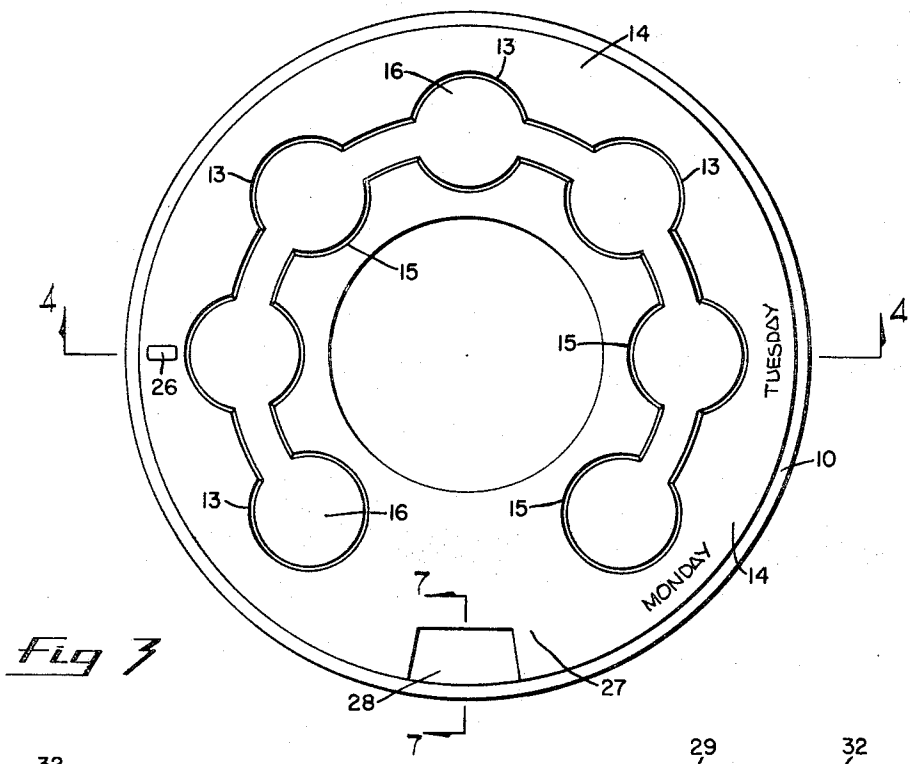


Fig 3

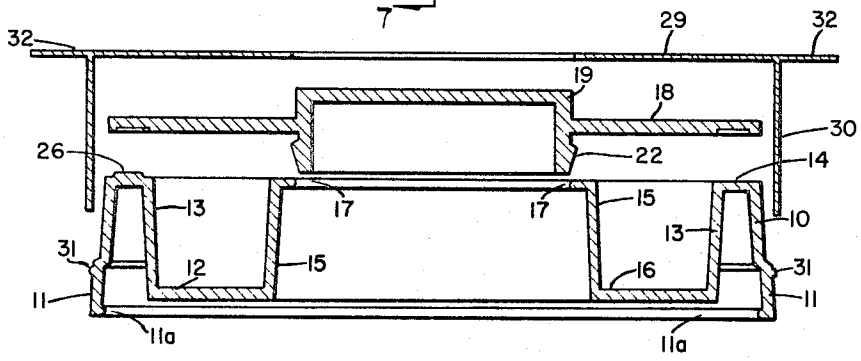


Fig 4

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PUSH BUTTON CONTAINER FOR CAPSULES AND TABLETS

Filed May 25, 1964 3 Sheets-Sheet 3

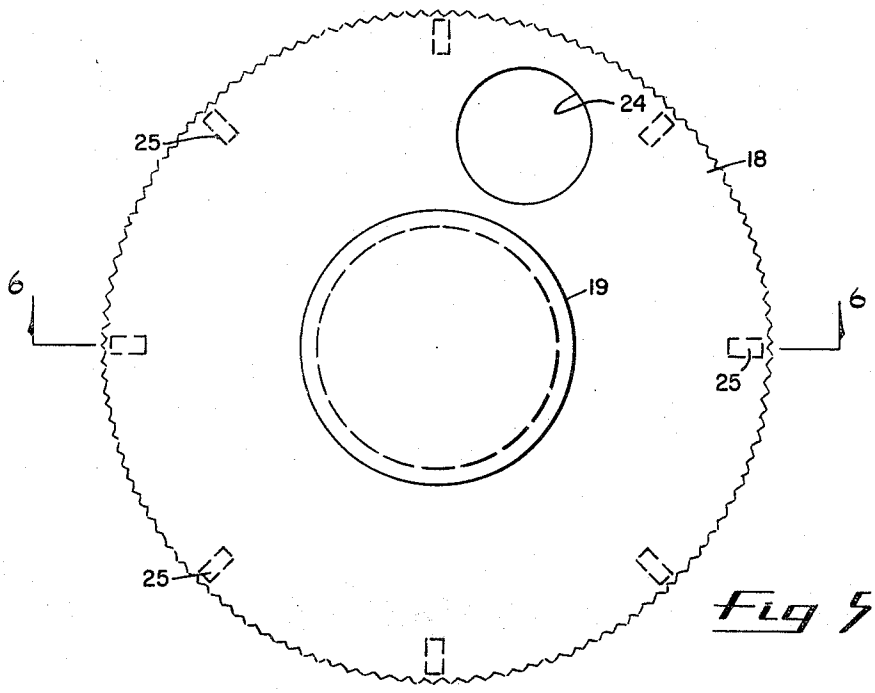


Fig 5

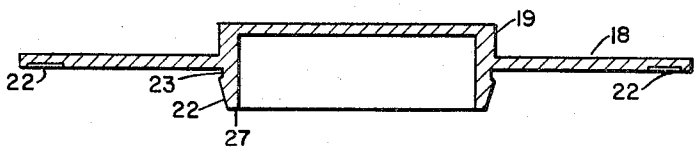


Fig 6

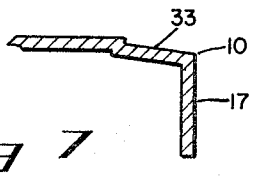


Fig 7

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PUSH BUTTON CONTAINER FOR CAPSULES AND TABLETS

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4 Claims. (Cl. 206—42)

My present invention is directed to containers or boxes having a relatively rigid base and having removable apertured cover means releasably mounted on the base receptacle, and provided with cooperating releasable fastening means on the cover which engage portions of the base and means providing a plurality of compartments in an annular path which are adapted to hold small articles, for example capsules, medicinal tablets, or the like.

It is an important object of my invention to provide novel economically manufacturable containers for small articles of various sizes and shapes, such as capsules and medicinal tablets, which will fully protect the articles from contamination and from undesirable temperature changes and which are portable, compact and have releasably secured rotatable covers or seals which can be quickly pushed upon the base portions and snapped into releasable rotatable positions; and wherein said covers have one or more openings to permit either one or a predetermined quantity of said articles to be removed or discharged separately.

A further important object of my invention is the provision of a molded container having a base portion, an inner wall and partitions spaced inwardly from the outer wall to provide a plurality of article compartments of varying sizes and shapes in an annular path, and having an inward flange-like projection; and having a cover with downwardly extending recessed projections which engage the flange-like projections of the base portion to releasably though rotatably hold said cover on said base portion; said cover having one or more apertures therein to provide for selective discharge or removal of small articles from said compartments.

Other and further objects of my invention will be apparent from the following description and appended claims.

On the drawings:

FIG. 1 is a perspective view of the base and receptacle portion of my capsule and tablet container with parts broken away.

FIG. 2 is a cross section and a partially perspective view of the cover of my capsule and tablet container.

FIG. 3 is a top plan view of my base container.

FIG. 4 is a cross-sectional view taken partially on a vertical plane, as indicated on line 4—4 of FIG. 3, and being an exploded view illustrating the inner cover and the outer hood or cap partially removed.

FIG. 5 is a top plan view of the cover of my novel container partially shown in FIG. 2, and showing a discharge opening therein.

FIG. 6 is a reduced cross sectional view of said cover and taken substantially on a vertical plane indicated by line 6—6 of FIG. 5.

FIG. 7 is a fragmentary cross section of a portion of a corner portion of a modified form of my cover.

As shown on the drawings:

Numeral **10** generally designates the container, receptacle and base portion of my improved container,

which is preferably molded from suitable plastic and which may vary in size and shape. Numeral **11** designates an integral depending, preferably enlarged, skirt, flange or peripheral portion of the continuous outer wall of said container **10**, and which preferably has an inner continuous reinforcing bead **11***a*.

Formed integral with the outer wall of the container **10** is an upwardly opening channel or article-holding member **12** which has a continuous integral outer wall **13** integrally formed with a horizontal member or web **14** connecting it to the outer wall of the container **10**. Said wall **13** preferably has arcuate portions as indicated in FIG. 3.

The inner portion of channel **10** has an inner integral continuous wall **15** which has a plurality of spaced apart arcuate portions, as illustrated in FIG. 3.

The respective spaced apart arcuate portions of inner wall **15** and arcuate portions of outer channel wall **13** define a plurality of spaced apart communicatively connected chambers or compartments **16** which may vary in size and shape and which are adapted to receive and to hold in spaced apart relation, in an annular path, a plurality of small articles of varying sizes and shapes, for example, capsules and medicinal tablets **17** or the like, one of which is illustrated in FIG. 3. At the ends of the plurality of compartments **16** the inner walls **15** and outer walls **13** are preferably merged and formed integral as indicated.

The inner wall **15** has formed integral therewith an inwardly extending projection or securing flange **17**, which is preferably annular, and which a flange of an inner cover is adapted to releasably engage as hereinafter described.

I desire it to be understood that the shape and size of said base container and of said compartments may vary in a wide range, though the same is illustrated in the drawings as being of rounded form.

Referring to FIGS. 1, 2, 5 and 6 numeral **18** designates generally a removable and rotatable inner cover which preferably is molded of suitable plastic and which has a central integral upwardly projecting grippable button-like projection or boss **19** and a downwardly opening peripheral groove **20** formed inward of and adjacent to its periphery. Said inner cover may have its periphery knurled, as indicated in FIG. 5 to facilitate rotation.

Formed integral with the middle portion of cover **18** is a depending annular slightly flexible flange **21** which is exteriorly beveled as at **22** and which has an annular outwardly opening recess or groove **23** formed therein. Said securing flange is of a size so that it will snugly fit and releasably engage the inner edge of flange **17** and snap into holding position partially below said flange, in which position it is rotatable, as illustrated FIG. 1. In such normally closed sealing position the inner cover **18** will be rotatable relative to the annular web **14** though held in closing position by the co-action of the flange **17** and flange **21** and its groove **23**.

Formed in the peripheral portion of inner cover **18** inward of its periphery is formed one or more slots or apertures **24** through which the articles in the compartments **16** may be discharged or removed successively, according to the position to which said cover is rotated by the user.

In my preferred form illustrated, said inner cover has only one such hole **24**. Said inner cover **18** is preferably

of transparent slightly flexible plastic. The upwardly facing peripheral portions of the annular web **14** preferably has reproduced or affixed thereon, suitable markings or indicia to indicate to the user either time or frequency of the last previous removal of a capsule or pill and of times when future pills are to be removed. Such markings, partially indicated in FIG. 3, also serve as a guide for the times, for example, hourly or weekly markings, when one or more capsules or pills should be removed and used in accordance with a medical prescription.

As shown in FIG. 5 numeral **25** designates a plurality of downwardly opening slots, recesses or holes formed in the peripheral portion of inner cover **18** in an annular path. Formed integral with the web **14** is an upwardly extending projection, tooth or lug **26** which is located so that, as the cover **18** is rotated, said lug **26** will removably seat in one of the annularly spaced apart slots **25**, to thereby releasably hold the cover in the desired position, for example, to hold it in the position from which a capsule or tablet has been removed and thereby hold it in closed position relative to the remaining capsules or tablets. When the user desires to remove another capsule or pill, he will rotate the inner cover **18** to position the hole **24** over the next compartment to permit removal of the article therein. In such rotative movement, the inner cover will flex very slighly upward as the lug **26** is beveled. Said lug **26** may optionally be beveled only on one side, and its other side forming a vertical shoulder so that the inner cover cannot be normally rotated in a reverse direction.

When all or part of the compartments are loaded with such articles, the removed cover is rotatably set in a position wherein the opening **24** will overlie that portion of the container designated as **27** in FIG. 3 which has no article compartment below it. In such position all of the compartments are closed.

As a user desires to remove the articles such as capsules or tablets according to time or frequency which may be borne on the face of web **14**, he will manually rotate the cover to permit selective removal of one or more capsules or tablets for use.

As illustrated in FIG. 4 an outer protective hood cover or cap **29** which may optionally be utilized and which has an integrally formed continuous wall or skirt **30**, and having a central opening, is adapted to be removably pressed into mounted position over said container and its inner cover **18**, so that said skirt frictionally engages a bead **31** formed on the lower portion of the skirt **11** of the container **10**. Also formed integral with said closure cap or cover **29** are a pair of oppositely extending extensions or grippable ears or lugs **32**, which facilitate selective rotation and removal of said outer cap or cover **29**.

The hole **33** in outer cover **29** is of a size larger than the boss **19**, so that said boss will project upwardly when said outer cover **29** is in closed sealing position.

In FIG. 7 is illustrated a cross section on a vertical plane of the upper corner portion of a modified form of base container **10** and which has an annular inclined shoulder **33** which has formed integral therewith an inwardly extending annular apertured flange **30**, the inner periphery of which defines a round opening in the middle of the base container. The flange **30** may have a plurality of spaced apart holes or recesses therein as previously described which represent openings to the spaced compartments which are adapted to be selectively closed as previously described.

Novel advantages of my described holder and container include the described features of construction which efficiently seal and protect the capsules and medicinal tablets or other articles from contamination during the relatively long period of storage and of intermittent uses thereof, and also the fact that the same may be manufactured economically and quickly.

Further advantages are to provide a portable container or dispenser from which articles, such as capsules or pills, may be withdrawn selectively and in accordance with a time sequence and which will indicate to a user the time of a previous removal and of a prescribed future removal and use.

I desire to be understood that my novel dispenser and containers for capsules and tablets may be of varied shapes and sizes, for example of substantially rectangular or triangular form or of other varied geometric forms, and that the drawings forming part thereof are merely illustrative.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter and it is contemplated that various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

I claim:

1. In a protective container for capsules or the like
a base having an outer continuous wall terminating in an outwardly converging periphery;
an annular upwardly opening channel in said base, and being integral with said base;
an integral flange on the inner portion of said channel defining an upper opening,
said channel having spaced apart partitions to form separate chambers,
a cover having a peripheral aperture and a slotted periphery and an upraised integral middle portion;
a depending recessed locking flange integral with the middle portion of said cover; said locking flange being adapted to releasably engage said first mentioned flange to hold said coved on said base though permitting rotation of said cover.

2. In a protective container for capsules or the like, a base member including an upper wall portion having a central circular opening therein and including means defining a plurality of capsule-receiving compartments in angularly spaced relation around said opening, a cover, and means for releasably securing said cover on said base member and for journaling said cover for rotation on said base member, comprising: integral depending locking means on said cover adapted to snap into said opening and to hold said cover on said base member while permitting relative rotation of said cover and said base member, said cover having an opening therein selectively alignable with said compartments to permit removal of capsules therefrom.

3. In a protective container as defined in claim **2**, said cover having a central upwardly extending projecting portion, and a cup-like cap removably mounted over said cover having a skirt portion adapted to slidably engage an outer portion of said base member and having a central aperture through which said projecting portion of said cover extends when said cap is placed on said cover and base.

4. In a protective container for capsules or the like, a base member including an upper wall portion having a central circular opening therein and including means defining a plurality of capsule-receiving compartments in angularly spaced relation around said opening, a cover, and means for releasably securing said cover on said base member and for journaling said cover for rotation on said base member, comprising: integral depending locking means on said cover adapted to snap into said opening and to hold said cover on said base member, said locking means comprising an element having a beveled end for engagement with an edge of said wall portion at said opening to cam said element radially inwardly when assembling

said cover on said base member and having an outwardly facing recess for lockingly receiving said edges of said wall portion, said cover having an opening therein selectively alignable with said compartments to permit removal of capsules therefrom.

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