

[54] **PILL DISPENSER WITH TOP
ROTATABLE RELATIVE TO BASE**

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[52] U.S. Cl. **221/246, 221/265, 206/42**

[51] Int. Cl. **B65d 83/04**

[58] Field of Search 221/171, 233, 287, 246, 256,
221/263, 265, 266, 277, 288, 289, 264; 206/42

[56] **References Cited**

UNITED STATES PATENTS

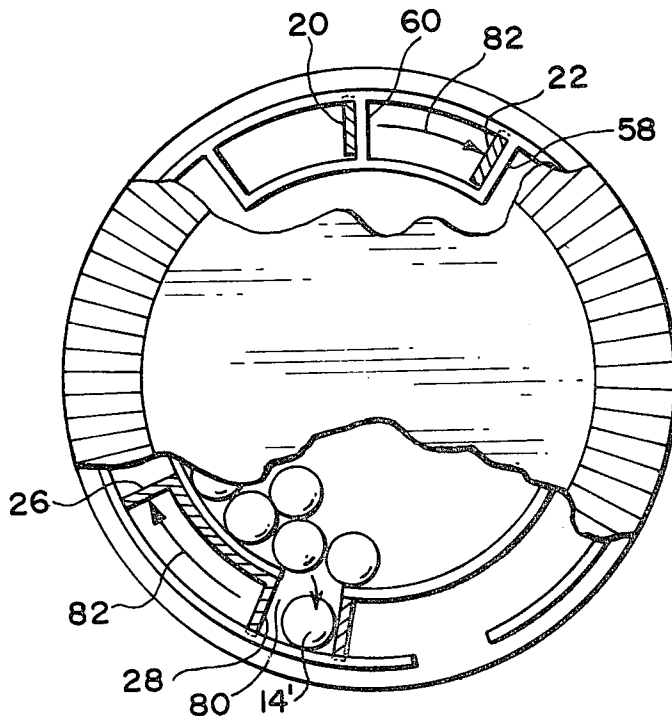
2,302,641 11/1942 Baron 221/246

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Assistant Examiner—T. E. Kocovsky
Attorney—Harbaugh and Thomas

[57] **ABSTRACT**

Pocket-size, easy-operating and simply constructed pill or tablet boxes are disclosed having two essentially flat disc-shaped cover and bottom members rotatable relative to each other and defining a central pill compartment and outlet openings between nested interlocking depending sidewalls wherein movement of the cover and bottom members to one position encloses the pills against dust and dirt, movement of the members to a second position entraps a selected pill in a walled recess, and movement of the members to the first position again closes the compartment and dispenses the selected pill or tablet.

11 Claims, 23 Drawing Figures



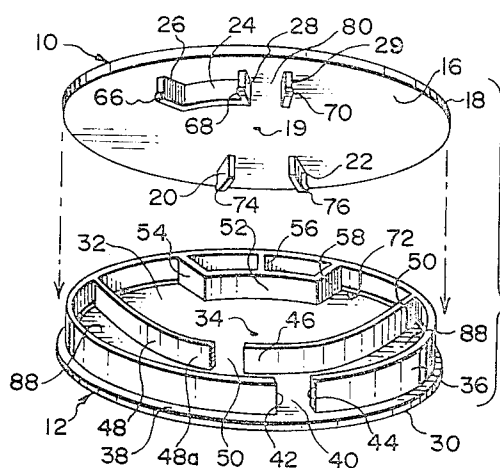


FIG. 1

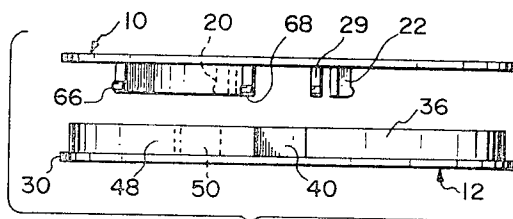


FIG. 2

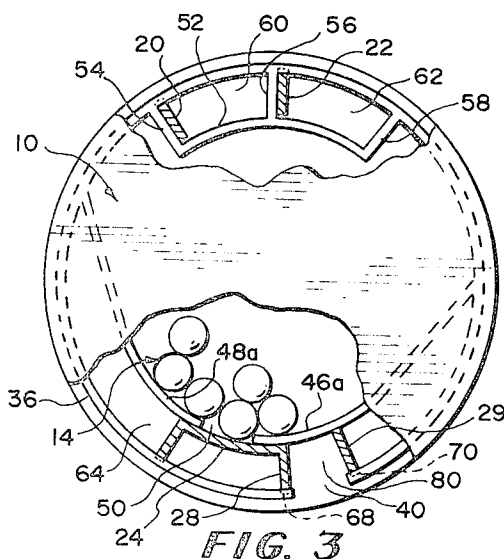


FIG. 3

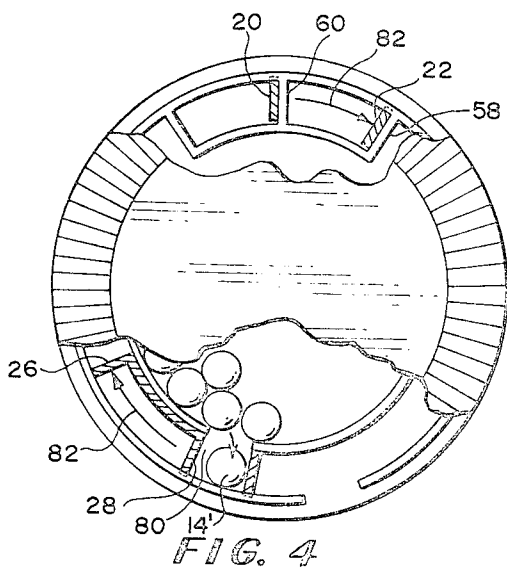


FIG. 4

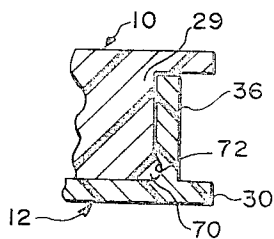


FIG. 6

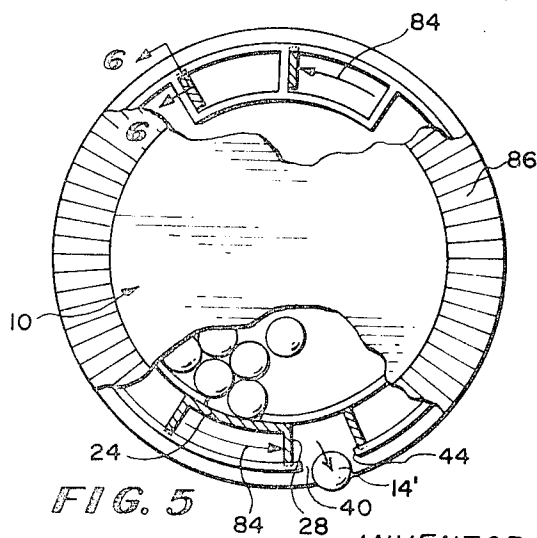


FIG. 5

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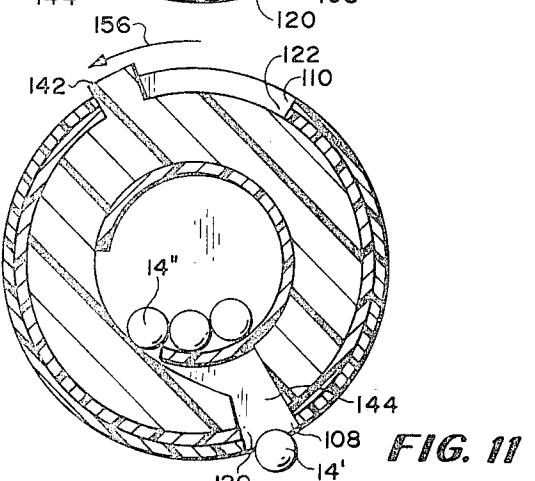
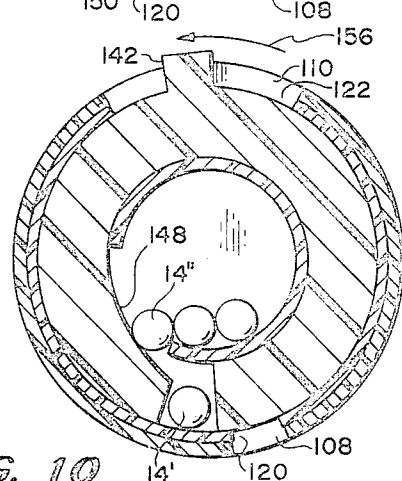
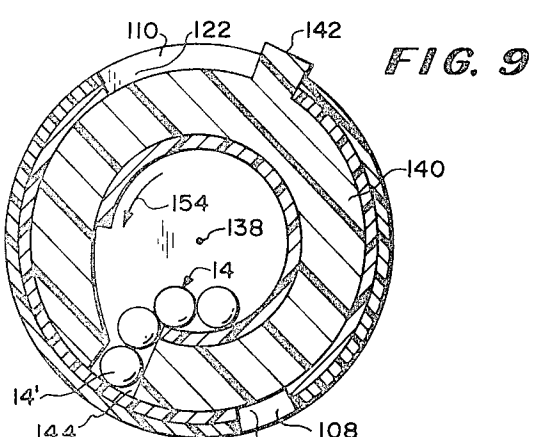
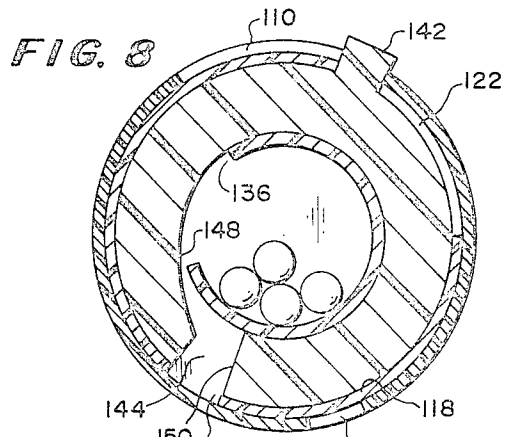
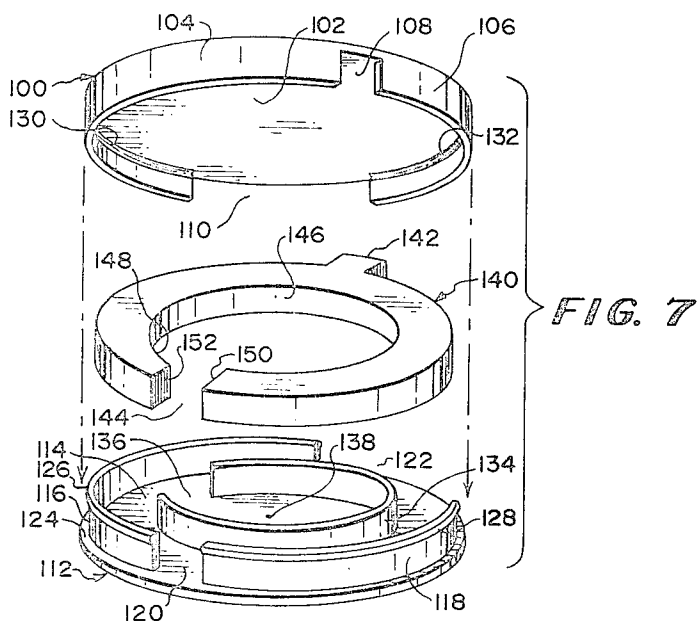


FIG. 10

FIG. 11

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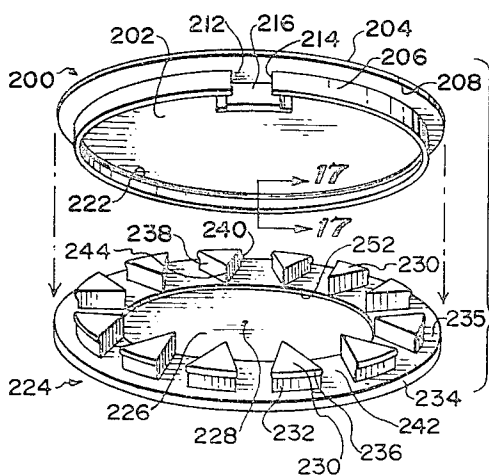


FIG. 12

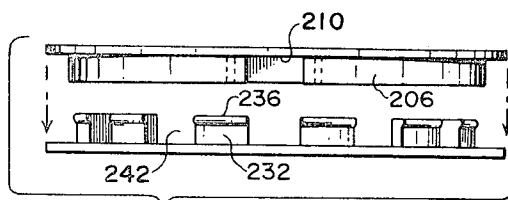


FIG. 13

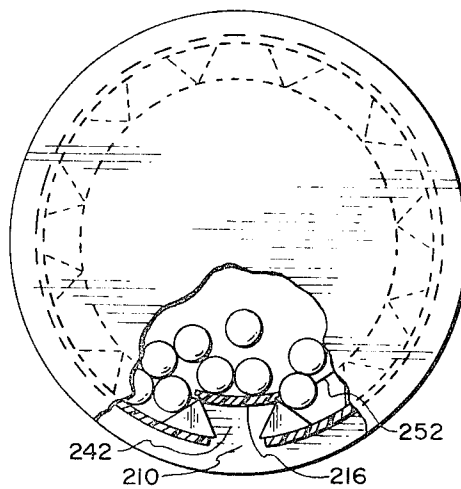


FIG. 14

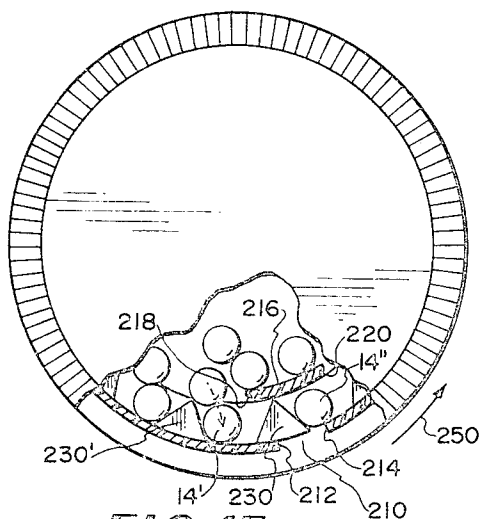


FIG. 15

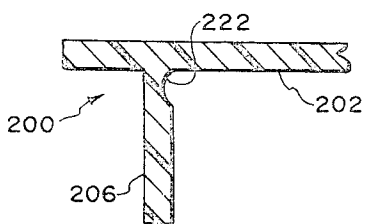


FIG. 17

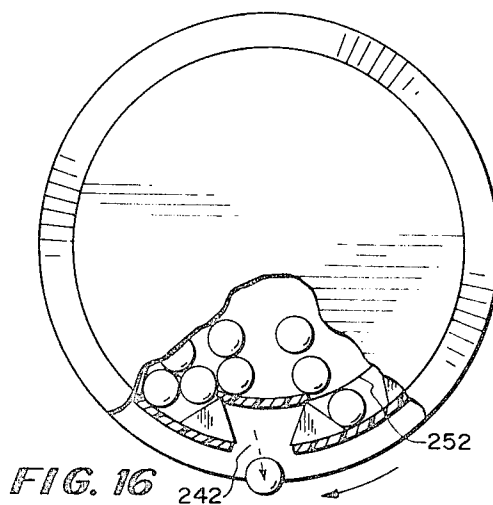


FIG. 16

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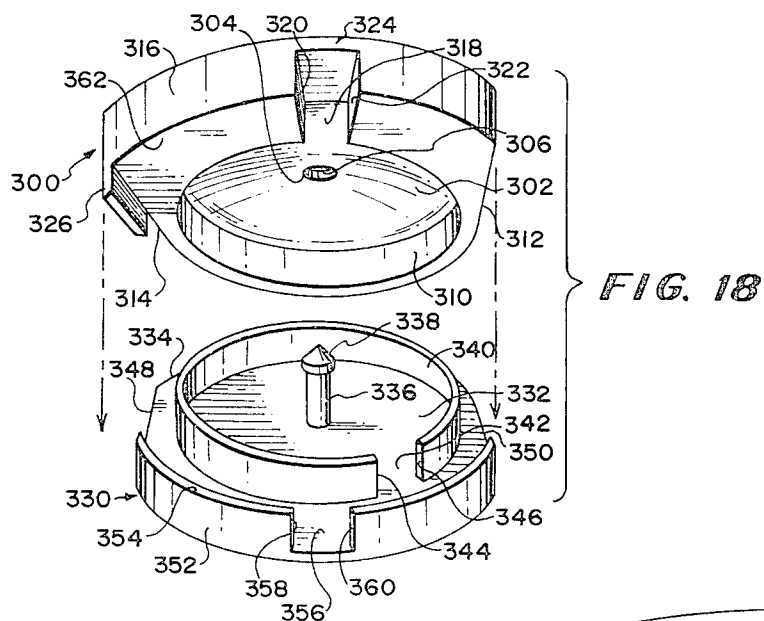


FIG. 18

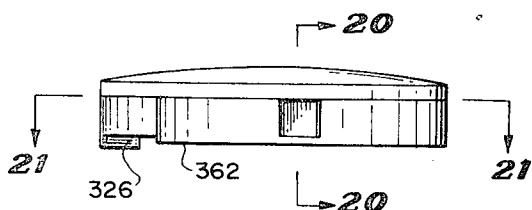


FIG. 19

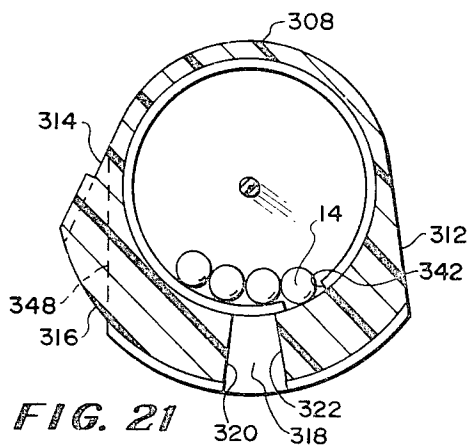


FIG. 21

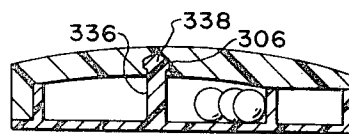


FIG. 20

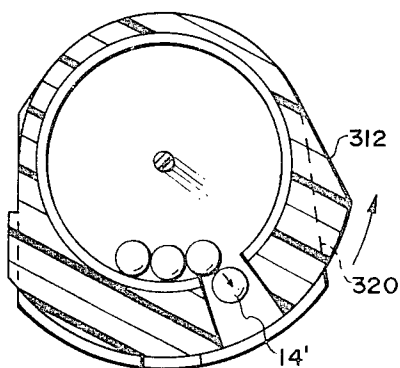


FIG. 22

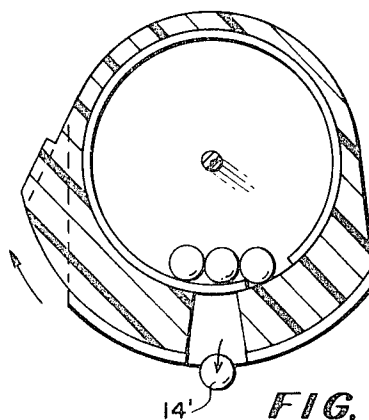


FIG. 23

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PILL DISPENSER WITH TOP ROTATABLE RELATIVE TO BASE

BACKGROUND OF THE INVENTION

Containers for pills designed to package, protect and dispense the product have heretofore been proposed. Ideally containers of this type are compact, relatively tightly sealed so as to exclude dust and moisture and should be characterized by the ease by which they are used. An important consideration is the ease of filling the pill compartment and manipulation of the dispensing mechanism. A common expedient is to use snap-on or hinged covers of various designs all directed to providing a container which is flat, compact and free of protuberances, while at the same time being convenient to extract from the pockets of clothing or a purse. Such devices must be easy to clean and reassemble. Any dispensing mechanisms used should be not only easy to use, and essentially foolproof but also be positive in their action so that the pills are not broken or accidentally dispensed in one's pocket.

Characteristically in an art of this kind the dispenser which looks the best is not always the easiest to fill or use and the container that is easiest to fill and use may be grotesque or may not always dispense the pills without breakage or lockup. Protection of the contents of the container from contamination appears to be secondary in some designs. The mere act of filling and closing some pill dispensers is a problem in dexterity. For others a person must watch the sequence of parts rotation and registry very carefully to get a pill out and prevent lockup of the parts. Changes in temperature and humidity sometimes adversely affect the operation of the moving parts of a pill box. Other designs are annoying to carry on the person and still others are either expensive to manufacture or too cheaply made to be practical.

SUMMARY OF THE INVENTION

The instant invention concerns a pill dispenser formed of two or three simple molded parts which are readily assembled by inspection and wherein the selection of a particular pill for ejection from the container is a positive simple stroke or rotation of one of the parts in relation to the other in a natural sequence. The dispensers of this invention are easy to take apart for cleaning and refilling. They are assembled by bringing the mating parts together in a press fit or snap-fit relationship. The dispensers in assembled condition are essentially flat and circular with smooth rounded edges so as to be convenient to carry and use and can be formed from molded plastic parts.

In one embodiment of this invention a two-part molded plastic dispenser is provided to include a circular flat bottom member with an outer circumferential upstanding wall having an outer opening or slot for a pill at one point in the circumference. A secondary arcuate dividing wall spaced inwardly therefrom defines the pill receptacle space and is provided with a pill slot offset from the first pill slot. Two smaller inner walled recesses or compartments serving as radial guide spaces are also provided substantially opposite the outer pill slot. At the base of the walls at appropriate points arcuate recesses are provided. The cover comprises a flat disc matching the circular shape of the bottom member, having a pattern of interconnecting and spaced subwalls depending from one surface and also having ribs at appropriate places which snap into the recesses to hold the cover and bottom together in a rotative relationship.

One configuration of subwalls on the cover member locks into walled recesses to form limit stops for the relative rotational movement of the bottom and cover members. The other configuration of subwalls forms a radially movable stop and opening so that in closed position the inner pill slot is closed while the outer pill slot is open. By rotation of the top and bottom members, within the limits of the stops, the opening registers with the inner slot to receive a pill in one position and with outer slot to eject the pill from the container in a second position. The walls of this form of dispenser are always closed.

In another embodiment the outer upright subwall of the bottom member has two openings, one a pill slot and the other a longer handle slot; and the inner subwall, defining the pill compartment, has an enlarged pill slot opening. The outer wall of the cover member has a pill slot and a handle slot matching these openings in the subwall of the bottom member but set inwardly the depth of the outer wall to be rotative and concentric therewith. An arcuate flat U-shaped pill expelling member is sandwiched between the top and bottom members fitting concentrically between the inner wall of the top member and the inner wall of the bottom member. The impeller has an inner camming surface terminating in a radial slot on one side and a tab or handle member on the opposite side. In this embodiment all three members, the cover, the bottom and the impeller are rotatable with respect to each other within the limits of the tab which extends radially into the longer handle slot. The parts can thus assume four positions; a closed position, a position to receive a pill in the radial slot of the impeller, a position conveying the pill to the outer pill slot and cutting off the entry of more pills by the camming action and a position of delivery of the pill outside the dispenser.

A pill dispenser is also provided wherein multiple radially spaced pockets are provided for rotation in respect to a fixed opening in the sidewall of the cover. An inner wall segment is provided opposite the opening to engage upon the pockets and seal a selected pill from the balance of the pills in the dispenser for ejection out of the opening.

In addition a pill dispenser is provided operating on a simple principle of sequentially opening a space on the inside to the pill contents to select a pill and then closing that side while the opposite or outside of the space is opened for ejection of the pill.

All embodiments of this invention are characterized by the shape, tolerances, spacial relationships and dimensions of the parts to attain the smoothness of operation of the parts and the unique facility with which a pill is selected for ejection from the dispenser. Furthermore an aspect of the invention is the provision of sealing and snap-fit relationships between the cover and bottom members and also between certain of the pill-selecting means that are practical, easy to manipulate and do not increase the molding or material costs.

DESCRIPTION OF THE DRAWINGS

Illustrative embodiments of the invention are shown in the drawings wherein:

FIG. 1 is an exploded view in perspective showing the top and bottom members of one form of pill dispenser;

FIG. 2 is a side plan view of the top and bottom members shown in FIG. 1 oriented for engagement one with the other;

FIG. 3 is a top plan view of the assembled pill dispenser of FIGS. 1 and 2 in closed position with the top member partially cut away to show the interior relationship;

FIG. 4 is a view like FIG. 3 with the top member rotated clockwise to a first position wherein a pill is received for dispensing;

FIG. 5 is a view like FIGS. 3 and 4 with the cover member rotated counterclockwise in relation to the bottom member whereby the selected pill is dispensed and the remaining pills are securely enclosed;

FIG. 6 is a fragmentary cross-sectional view taken along the lines 6—6 of FIG. 5 to illustrate one of several rotatable snap-fit relationships of the cover and top members;

FIG. 7 is a perspective exploded view of the parts forming a dispenser comprising another embodiment of the invention;

FIG. 8 is a cross-sectional view of the assembled and nested parts of FIG. 7 showing the closed and locked condition of the dispenser;

FIG. 9 is a view like FIG. 8 with the parts turned to a first position whereby a pill is selected for dispensing;

FIG. 10 is a view like FIG. 9 with the impeller turned to an intermediate position;

FIG. 11 is a view like FIG. 10 with the impeller turned to the open position for the dispensing of the pill;

FIG. 12 is a perspective exploded view of the parts forming a dispenser comprising another embodiment of this invention;

FIG. 13 is a side plan view of the parts shown in FIG. 12 oriented for assembly;

FIG. 14 is a top plan view partly in section showing the closed position of the dispenser;

FIG. 15 is a top plan view like FIG. 14 showing the intermediate position of the parts during the dispensing of a pill;

FIG. 16 is a view like FIG. 15 showing the dispensing position of the parts which is the closed position of the container;

FIG. 17 is a fragmentary cross-sectional view taken along the lines 17—17 of FIG. 12 illustrating the snap-fit rotational relationship of the cover member and bottom member;

FIG. 18 is an exploded perspective view of the two molded parts forming a dispenser comprising another embodiment of this invention;

FIG. 19 is a side perspective view of the parts shown in FIG. 18 in assembled closed position;

FIG. 20 is a cross-sectional view of the assembled dispenser container taken along the lines 20—20 of FIG. 19;

FIG. 21 is a cross-sectional view taken along the lines 21—21 of FIG. 19 with the parts in closed position;

FIG. 22 is a view like FIG. 21 showing the parts rotated to a pill receiving position; and

FIG. 23 is a view like FIG. 22 showing the parts rotated to the dispensing position for the selected pill which is the closed position of the container.

THE PREFERRED EMBODIMENT

Throughout the description of the detailed parts of the dispenser container of this invention the terms "cover member" and "bottom member," "depending" and "extending" or "top" and "bottom" are used to describe the principal elements and their parts as they are oriented in the drawings and it is to be understood that the dispensers of this invention can be otherwise oriented so that these elements and their parts are in a reversed spacial relationship and perform the same functions without regard to such spacial attitude and are so regarded without the necessity of changes in such nomenclature. It is further to be understood that the items to be contained and dispensed, though referred to herein as pills and tablets and illustrated to be spherical, can be any shape or configuration including capsules or gelation balls or other small objects which one may desire to store or contain for individual release in the manners illustrated.

Referring to FIG. 1 there is shown the cover member 10 and the bottom member 12 of a round flat dispenser as these parts appear in disassembled relationship, e.g., as produced by the molding machine or as opened for the purpose of inserting the pills or tablets 14, shown in FIGS. 3—5. The cover member 10 is formed with a disc-shaped flat body 16 having the circular outer peripheral edge 18.

The cover member 10 has a pair of downwardly depending flat tabs or stop members 20 and 22 affixed to the underside or molded as integral parts of the cover member 10. The tabs 20 and 22 are essentially rectangular in configuration and are positioned radially on the cover member, being spaced inwardly from the periphery 18 and outwardly from the center 19 of the disc 16. The tabs 20 and 22 can have other solid shapes, as will become apparent from this description, and may also be circumferentially spaced from each other different distances than that illustrated, as will also be further described or become apparent.

The next feature of the cover member 10 is the depending arcuate wall 24 having at the ends the radially disposed guide walls 26 and 28. Circumferentially spaced from the wall 28 there is provided the retainer wall 29 the functions of which will be described. The arcuate wall 24 is concentric with the periphery 18 and a segment of a circle whose center is coincident with the center 19 of the disc 16. The guide walls 26 and 28 are essentially identical as will be described. The guide walls 26 and 28 and arcuate wall 24 combine to form a gate which closes and opens the container and functions as an actuator or pistonlike member, as will be described.

The bottom member 12 has the circular peripheral edge 30, substantially the same diameter as the cover member 10 and comprises the flat disc body 32 the center which is indicated at 34. The bottom member 12 is provided with the upstanding circular outer wall 36, which is spaced inwardly, as at 38 from the periphery 30, with the opening 40 therein, formed by the spaced ends 42 and 44. Secondary or intermediate walls 46 and 48 are similarly provided with their outer ends joining the inside of the wall 36 at opposite sides of the bottom member, as indicated at 50. The walls 46 and 48 (See FIG. 3) have the spaced end portions 46a and 48a that are arcuate and concentric with and spaced inwardly from the outer wall 36 on each side of the opening or slot 50 defined at their termini. The opening 50 is offset circumferentially from the opening 40 in the wall 36. FIG. 3 also shows that the retainer wall 29 is spaced from the wall 28 a distance slightly greater than the circumferential width of the opening 40 in wall 36.

On the opposite side from both openings the bottom 12 has the arcuate wall 52 and the radial walls 54, 56 and 58 formed integrally therewith to the inner surface of the wall 36 and providing the arcuate recesses or pockets 60 and 62 therebetween. In the circumferential and radial spacing illustrated it is seen that the cover member 10 fits down upon the bottom 12 with the tabs 20 and 22 in the recesses 60 and 62 respectively, and, with the guide wall or actuator 24 within the space 64 between inside of the arcuate wall 36 and the outer surfaces of the concentric wall portions 46a and 48a as shown in FIG. 3, while the spaced top and bottom surfaces of the discs 16 and 32 and the balance of the walls form a compartment to contain the tablets or pills 14. All of the top edges of the walls 36, 46 and 48, and the walls of the actuator are coplanar so that the under surface of the disc 16 forms a dust-tight and moistureproof seal against these edges.

It is to be observed that the walls 26 and 28 have the ribs or beads 66 and 68 at their outer corners and the retainer wall 29 also has the rib or bead 70 at the outer corner, all spaced from the underside of the disc 16. Also the wall 36 has the inner circumferential recess or groove 72 at the juncture with the face of the disc 32. As the cover member 10 and bottom member 12 are brought into the mating relationship shown in FIG. 3 these beads and the recesses mate as shown in FIG. 6, in a snap-fit relationship that holds the cover and bottom members together and allow them to be rotated in relation to one another. The relationship illustrated in FIG. 6 wherein the recess 72 of the wall 36 of the bottom member 12 is shown in engagement with the bead 70 of the guide wall 29 extending from the cover member 10, is representative of the structures of other bead-recess parts in this embodiment and other embodiments of the invention. Although the recess 72 is shown to extend around the periphery of the bottom member 12, it is apparent that this recess can be discontinuous and be provided in suitably dimensioned segments at those places to engage a bead of an adjacent part of the cover member 10. Also those parts of the cover member 10 shown to have beads are not all inclusive and it is only necessary that a sufficient distribution of the beads 66, 70, etc., on one side and the bead 74 on the other side, be provided so that the cover and bottom members are held in a snap-fit rotational relationship. If desired the bead-recess relationship can be reversed on these parts.

Referring to FIGS. 3, 4 and 5 the operation of the device is as follows. With pills 14 in the space defined by the walls 46, 48 and 36 and 52 between the cover and bottom members snapped together, the closed position of the dispenser is shown in FIG. 3. The tabs 20 and 22 are against the walls 54 and 60, the arcuate wall 24 closes the opening 50 and the space 80 between the wall 28 of the actuator and the wall 29 registers with the opening 40 defined by the termini 42—44 of the wall 36. This position of the parts is the same as shown in FIG. 5.

The dispenser is tilted slightly so that the pills 14 slide to the inside of the walls 46—48 and gather at the opening 50. The cover 10 is rotated clockwise, indicated by the arrows 82, or in relation to the bottom member 12 (or the bottom member 12

can be rotated counterclockwise, or both members moved simultaneously in opposite directions) to attain the open position shown in FIG. 4. Here the tabs 20 and 22 have swept through to the other ends of the arcuate spaces 60 and 58, respectively, and the space 80 has moved to register with the space 50 so that the pill 14' falls or slides therein. The combined spaces 50 and 80 only accommodate one pill at a time and reversal of the position of the cover and bottom members causes the actuator wall 28 to push the pill 14' to a point opposite the opening 40 and be dispensed. The arcuate wall 24 sweeps by the opening 50 and closes the container as before, e.g., into the position of FIG. 3 or FIG. 5.

To assist in the finger manipulation of the dispenser the outer surfaces or peripheral edges of the cover and bottom members can be knurled, as illustrated at 86. The top surface of the cover member 10 or the bottom surface of the bottom member can bear indicia to label the contents or type of tablet contained in the dispenser. The space between the walls 26—28 can be molded in a solid configuration if desired and, similarly, the walls 20 and 22 can be any desired thickness with appropriate change in the size of the spaces 60 and 52 to accommodate same. Only one tab or buttress 20 and recess 66 can be used if desired. The spaces 88 can be filled or differently shaped in the molding of the bottom member as long as the arcuate concentric relationships of the walls 46a—48a and the outer wall 36 opposite the openings 50 and 40—44 are maintained.

Referring to FIGS. 7—11 a modification of these structures is shown wherein the actuator or impeller is made as a separable movable structure between the cover and bottom members which bear the snap-fit rotational relationship heretofore described. In this embodiment (FIG. 7) the top member 100 has the disc-shaped flat bottom wall 102 and the depending peripheral walls 104 and 106 broken or spaced from each other by the opening 108 on one side and the longer opening or slot 110 on the other side.

The bottom member 112 has the flat disc body 114 and the upwardly depending circumferential walls 116 and 118 separated from each other by the opening 120 on one side and the longer slot 122 on the other side. The walls 116 and 118 are radially inset to provide the shoulder or flange 124 around the inner side of the bottom member 112 and have the outer snap beads 126 and 128 which mate with the inner circumferential grooves or recesses 130 and 132 at the base of the walls 104 and 106 in the assembled condition of these parts.

The bottom member 112 has the inner circular wall 134 which is discontinuous to define the larger opening 136 directed toward the wall 116. The concentric arrangement of walls 116 and 118 with the discontinuous wall 134 about the center 138 defines a circular channel or annulus to slideably receive the circular flat impeller 140 having the handle or tab 142 on its periphery and the slot 144 opposite thereto. The wall 134 forms a hub or bearing for the impeller which engages same by means of the essentially circular inner surface 146, except for the outwardly directed cam surface 148 leading to the opening 144. Thus the end 150 of the impeller 140 fills the cross-sectional area of the annulus between the walls 134 and 116—118 while the end 152 is smaller than this annulus. The impeller has a depth substantially the same as the depth of the annulus between the assembled cover and bottom members and this depth is slightly greater than the thickness of the tablets 14 so that the tablets can pass therethrough.

FIG. 8 shows the assembled condition of the cover, bottom and impeller members wherein the tab 142 extends through the overlapping elongated openings 110 and 122, the wall 118 extends over and closes the slot 120 and the cam 148 partly closes the opening 136 while the slot 144 is closed within the annulus.

Thus by turning the bottom 112 counterclockwise in relation to the cover 100, e.g., in the direction of the arrow 154, the elongated slots 110 and 122 now register with one another (FIG. 9) and the opening 136 and cam 148 provide access to the slot 144 of the impeller 140 so that, with the dispenser

held at a slight angle the pill 14' falls into the slot 144 of the impeller. Also the slots 108 and 120 register in this position of the parts.

Then the tab 142 is pushed in the direction of the arrow 156 in the registered slots 110 and 122 (FIG. 10) which causes the next tablet 14' and those behind it to be lifted or pushed up or along the cam 148 as the wall 134 moves in relation to the impeller and the tablet 14' is entrapped in the slot of the impeller. As the tab 142 reaches the end of the registered slots 110 and 122 (FIG. 11) the slot 144 containing the tablet registers with the slots 108 and 120 and the tablet 14' is dispensed.

The dispenser of this invention can take still another modified form in which the impeller and the inner retaining walls are omitted and a plurality of peripheral openings on the bottom member cooperate with a closure member and outer slot in the cover member to accomplish these purposes of selective dispensing of a tablet or pill as shown in FIGS. 12—16.

Here the cover member 200 has the flat disc body 202, the circular peripheral edge 204 and the depending circular wall 206 which is inwardly offset from the edge 204 to form the flange 208. The wall is discontinuous to define the outer slot 210 between the ends 212 and 214. Radially spaced inwardly and opposite to the slot 210 there is provided the retainer wall 216 having the small notched corners 218 and 220 on the outer surface which extend the height of the wall. The inner peripheral junction of the wall 206 with the body 202 bears the circumferential recess 222 (FIG. 17) similar to the embodiment shown in FIG. 7.

The bottom member 224 has the flat disc-shaped body 226 whose center is illustrated at 228 and a series of peripherally equally spaced, identically shaped segmental wall members 230. Each wall member 230 has an outer surface 232 which is concentric with the circular edge 234 and spaced inwardly therefrom to form the peripheral circumferential flange 235. At the top of each wall segment there is provided the segmental or arcuate bead 236. Each wall segment 230 is triangular in shape, having the converging walls 238 and 240 and is spaced from the neighboring wall segment to define a pocket or radial recess 242. The walls 238 and 240 converge to form an inner resilient pointed edge 244 thereon.

The effective height or radial width of each wall segment from the inner point 244 to the arcuate base wall 232 is slightly greater than the radial distance between the inner surfaces of the wall 206 and the outer surface of the retainer wall 216. This difference is represented by the depth of the respective notches 218 and 220. The effective length of the retainer wall 216 is slightly greater than the opening 210 and also greater than the radial recesses 242 between adjacent pairs of said segmental wall members 230. The beads 236 snap fit into the circular recess 222.

Thus the cover member 200 fits upon the bottom member 224 with the wall 206 encompassing the outer surfaces 232, the segmental wall members 230 and with these wall segments adapted to pass between the wall 206 and the retainer wall 216 as shown in FIG. 15, with a stop action each time a pair of points 244 of the wall segments comes opposite the notches 218 and 220 (shown in FIGS. 14 and 16).

The cover 200 and the bottom 224 are rotatable with respect to each other to the closed position shown in FIGS. 14 and 15 with the retainer wall across the points of a pair of segmental walls and rotatable in either direction, such as in the direction of the arrow 250 (FIG. 15) whereby the space between the next pair of segmental walls 230 and 230' becomes accessible to or already contains a tablet 14' and continued rotation of the parts will bring this tablet opposite the opening or slot 242 for ejection from the dispenser. Conversely the cover can be rotated opposite to the direction of the arrow 250 in which event the tablet 14' will be ejected. In the closed position the tablet compartment is effectively sealed by the closely fitting parts. Each partial turn of the cover and bottom members causes a stepwise or intermittent

stop point as the points 244 engage and disengage from the notches 218 and 220. The dispenser shown in FIG. 12-17 can be operated by relative rotation in either direction. If desired the inner surface of the bottom member 224 can have a slight recess to provide the circumferential edge 252 contiguous to each of the points 244 to provide a slight retaining wall over which the tablets must be jiggled to be dispensed.

The next embodiment of this invention is shown in FIGS. 18-23 wherein the cover member and impeller member of the embodiment shown in FIGS. 7-11 have been combined. In FIG. 18 the cover member 300 has the circular recess 302 having a central blind bore 304 with the undercut or enlargement 306 in the bottom. The outer wall 308 (FIG. 21) and the inner wall 310 of the recess 302 are concentric in part and the cover is provided with the tangential flat walls 312 and 314 joined to the outer concentric wall 316 which is interrupted by the opening or notch 318 defined by the ends 320 and 322. The opening 318 has the top wall 324 connecting between ends 320 and 322. The wall or side 314 has the depending tab 326.

The bottom member 330 has the flat disclike body 332 and the curved edge 334 whose center is occupied by the protuberance or stub axle 336 having the head 338. Concentric with the axle 336, the wall 340 extends around the surface of the flat disc 332 and is interrupted to define the notch or opening 342 between the ends 344 and 346.

The bottom member has the flat sides 348 and 350 connecting to the outer edge 352 having the flange wall 354 interrupted by the notch 356 defined between the ends 358 and 360. The edge 352 and the wall 354 have a circular curvature about the central axle 336.

As illustrated the cover member 300 snaps upon the bottom member 330 with the bore 304 and undercut 306 receiving the axle and head as illustrated in FIG. 20 and with the circular wall 340 nested within and concentric with the wall 310 of the recess 302. The edge 316 fits concentrically within the inner surface of the flange 354 as shown in FIG. 21 with the recess 302 encompassing the wall 340 to define a compartment to contain the tablets 14. The tab 326 extends just sufficiently beyond the bottom surface 362 to form a stop member and engage the surface 348 of the bottom member 330 as shown in FIG. 22.

Thus the cover member 300 and the bottom member 330 have limited rotation in one direction about their common axis 340-336 as determined by the angular difference between the surface edges 314 and 448 (FIG. 21) and the limitation imposed by the stop tab 326. It is apparent that a convenient form of tablet dispenser if formed by these structures since partial rotation of the cover 300 from the position shown in FIG. 21 to the position shown in FIG. 22 is accomplished by holding the container between the cradled fingers of the hand and pressing the sides 314 and 348 into coplanar relationship (FIG. 22). This brings the notch 318 into registry with the opening 342 to allow one tablet 14' to enter. Then pushing the surface 312 so that it is flush with the surface 350, on the other edge of the assembly and by the same thumb and finger action, returns the parts to the closed condition of FIGS. 21 and 23, but carries the tablet 14' to a position opposite the opening 356 in the wall 352, whereby it is released.

What is claimed is:

1. A dispensing container for small objects comprising; separable cover and bottom means having interengaging head and groove portions holding said cover and bottom means in juxtaposition and snap fit rotational relationship to each other;
- outer circumferential wall means extending from said bottom means and having a peripheral outlet;
- an inner wall means extending from said bottom means defining a space with said cover means to retain said objects;
- a portion of said inner wall means being concentrically offset from said outer circumferential wall and defining an arcuate space therebetween;

an opening in said concentric portion and radially offset from said peripheral outlet;

object retainer means carried by said cover means having an arcuate wall segment in guided relationship within said arcuate space and facing said opening;

a retainer wall carried by said cover means and radially spaced from said arcuate wall segment defining an object receiving space therebetween;

a stop member depending from said cover member and circumferentially spaced from said inner wall means;

radially disposed subwalls extending from said bottom means and defining an arcuate recess circumferentially disposed from said peripheral outlet; and

said cover means and said bottom means fitting together with said arcuate wall and object retainer means within said arcuate space and with said stop member within said arcuate recess whereby rotation of said cover means and bottom means in relation to each other within the circumferential limits of the movement of said stop member within said arcuate recess moves said object receiving space to and from registry with said openings in the arcuate space and the peripheral outlet of said outer wall, and in the open position of the latter said arcuate wall closes the former.

2. A dispensing container for small objects comprising: separable flat cover means and flat bottom means;
- an arcuate wall segment depending from the underside of said cover means having outwardly directed radial wall portions at each end defining an object retainer means;
- a second radial wall portions spaced from one of said radial wall portions of said retainer means to define therebetween an object passageway, said second radial wall portion having the same radial depth as the radial depth of said object retainer means;
- bead members on the outer corners of said wall portions;
- a depending stop member on the underside of said cover means at a point circumferentially spaced from said retainer means;
- an outer circular wall extending upwardly from said flat bottom means having a circumferential recess at its inside base, said circular wall having an outlet at one point in its periphery;
- an inner wall member extending upwardly from said bottom means and having an arcuate portion concentric with said outer circular wall along a portion of its circumference including said outlet;
- a second outlet in the arcuate portion of said inner wall circumferentially spaced from the outlet in said outer wall;
- an arcuate pocket on the inside of said outer wall opposite said second outlet; and
- said cover member and bottom member fitting against each other in a releaseable rotatable snap-fit relationship due to the mating of said beads with said circular recess, whereby said object retainer means is slidably engaged between the concentric arcuate spaced walls of said inner and outer walls and whereby the rotation of said cover and bottom members in relation to one another alternately places the inner surface of the arcuate wall of said object retainer means across said second outlet and said object passageway open to said first outlet, and to place said object passageway into registry with said second outlet and an object can be admitted to said object passageway in said second position to be carried thereby to said first outlet upon rotation of said cover and bottom to said open position.
3. A dispensing container for small objects comprising: separable cover and bottom means having interengaging head and groove portions holding said cover and bottom means in juxtaposition and snap-fit rotational relationship to each other;
- depending inner wall means extending between said cover means and said bottom means defining a space for said objects;
- an outlet through said wall means;

depending outer wall means between said cover and bottom means having a second outlet therein;
 a part of said inner wall means defining an arcuate wall segment spaced inwardly from said second outlet;
 object retainer means comprising a plurality of circumferentially spaced divider segments arranged around and spaced inwardly from the periphery of said bottom member;
 said divider segments having an arcuate outer wall contiguous to the inner wall of said cover member and spaced from each other a distance substantially equal to the width of said outlet opening; and
 said divider segments having inner resilient edges spaced from each other a distance substantially equal to the circumferential length of said wall segment whereby registry of a pair of said divider segments with the ends of said arcuate wall interior registers the space between that pair of divider segments with said outlet.

4. A dispensing container for small objects comprising:
 separable cover and bottom means having interengaging head and groove portions holding said cover and bottom means in juxtaposition and snap-fit rotational relationship to each other;
 said cover means having a depending outer wall with an outlet opening herein;
 an elongated opening in said outer wall opposite said outlet opening;
 said bottom means is provided with an upward extending outer wall having an outlet on one side and an elongated opening opposite thereto;
 said outer wall of said bottom means fitting concentrically within said outer wall of said cover member and rotatable with respect to each other to register the respective outlet openings and said elongated openings in a first position;
 an inner circumferential wall extending from said bottom means concentric with and spaced within said outer wall and having an opening toward one portion of said outer wall;
 a circular impeller rotatably received within and substantially filling the space between the concentric inner and outer walls of said bottom means; and
 said impeller having an object receiving passageway on one side and a tab on the other side extending into and held by the registered elongated openings in said cover means and bottom means to define the limits of rotation whereby in said first position of said cover and bottom means said impeller is rotatable to register the object receiving passageway with the opening in the inner wall of said bottom means to receive a selected object and in turn rotatable to a second position opposite the outlet in said outer wall to dispense said object.

5. A dispensing container in accordance with claim 4 in which:
 the inner periphery of said impeller is provided with an outwardly inclined cam surface engageable with an object following the selected object and carry same inwardly from said opening in said inner wall and block said opening.

6. A dispensing container for small objects comprising:
 a cover member having a depending outer wall with an outlet therein and a circumferential groove at the inside base of said outer wall;
 an elongated opening in said wall opposite said outlet;
 a bottom member having an upwardly extending outer wall having a bead around the outer top edge thereof;
 said outer wall of said bottom member having an outlet therethrough and an elongated opening on the side opposite said outlet;
 said outer wall of said bottom member fitting concentrically within said outer wall of, said cover member with said respective groove and bead mating so that said members are fitted together in a snap-fit rotatable relationship and said outlets and openings thereof come into mutual coextending registry in one position;

an inner circular wall extending from said bottom member concentric with and spaced from said outer wall thereof and having an opening toward one portion of said outer wall thereon;
 a flat circular impeller receivable within and substantially fill the space between the concentric inner and outer walls of said bottom member; and
 an object receiving pocket in said impeller registerable with said respective openings in the inner and outer walls of said bottom member to select and dispense an object therethrough.

7. A dispensing container in accordance with claim 6 in which:
 said impeller is provided with a radial tab extending into both coextending elongated openings of the outer walls of said cover and bottom members;
 said impeller being discontinuous at a point opposite said tab to define said object receiving pocket; and
 the inner circular wall of said impeller having an outwardly inclined cam surface terminating at said pocket whereby said tab is locked between the opposing opposite ends of said coextending elongated slots of said outer walls in one relative position of rotation of said cover and bottom members with said inner surface of said impeller closing the opening in the inner wall of said bottom member and rotation of said cover and bottom members in relation to each other brings said elongated openings into complete registry and closes the opening in said inner wall of said bottom member and further rotation of said impeller moves an object in said pocket to the now registered outlets in the outer walls of said cover and bottom member.

8. A container and dispenser for small objects comprising:
 a cover member having a depending wall with an outlet therethrough and a circumferential groove on the inside base thereof;
 an arcuate concentric wall member spaced inwardly from and opposite to said outlet, said wall member having recesses at the outer corners thereof;
 a bottom member having a plurality of circumferentially evenly spaced divider segments thereon, said segments having converging sidewalls defining inner resilient edges and an outer arcuate wall with a bead at the top edge thereof;
 said cover and bottom members fitting with each other with the depending wall of said cover member encompassing the outer arcuate walls of said divider segments and with the beads thereon snap fitting into said circular groove; whereby said divider segments are rotatable between said depending wall and said arcuate concentric wall to a first position wherein the space between a pair of said segments is open to the interior of the container and to a second position whereby the space between said segments is open to said outlet and the resilient edges of said segments register with the recesses at the ends of said concentric wall member to provide a restraint each time a pair of said divider segments moved a distance equal to their arcuate spacing.

9. A container and dispenser in accordance with claim 8 in which:
 said bottom member has a planar interior surface recessed below the bottoms of said segments to provide an edge between said resilient points over which an object must pass to the space therebetween.

10. A dispensing container for small objects comprising:
 separable cover means and bottom means rotatably mounted with respect to each other on a central axis;
 means adapted to hold said cover means and bottom means in juxtaposition to each other in a snap-fit rotatable relationship;
 inner wall means extending between said bottom means defining a space for said objects;
 an opening through said inner wall means;
 depending outer wall means extending from said bottom means having a second opening therein;

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object retainer means comprising a wall segment of said cover means having a notched opening therethrough positionable radially within the space between said inner and outer walls to register said notched opening to and from said wall openings;
said cover means and bottom means each having flat diverging tangential opposite sides, the flat sides on one of said members diverging at a greater angle than the flat sides of the other whereby to overlap on both sides of said axis; and
a tab member extending from one of said sides to engage the corresponding flat side of the other member whereby to

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limit the relative rotation of wall segment from a position of registry of said notch with said inner opening to a position of registry of said notch with the outer opening.
11. A dispensing container in accordance with claim 10 in which:
said cover means and bottom means are rotatably joined on an axis extending from one of said members;
said axis having an enlarged head at its extended end; and
a bore in the other of said members mating with said head in a snap-fit rotational relationship.

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