Feb. 14, 1961 C. G. ALLISON ET AL 2,971,638

DISPENSING CONTAINERS

Filed May 24, 1956 2 Sheets-Sheet 1

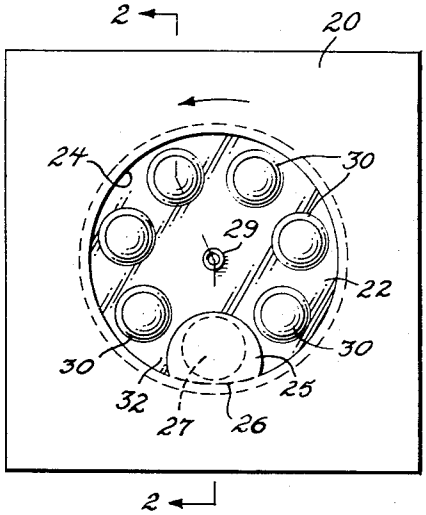


Fig. 1.

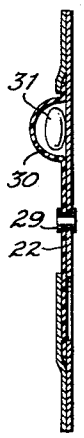


Fig. 2.

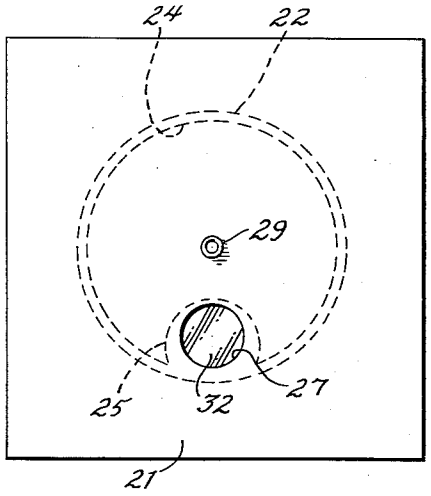


Fig. 3.

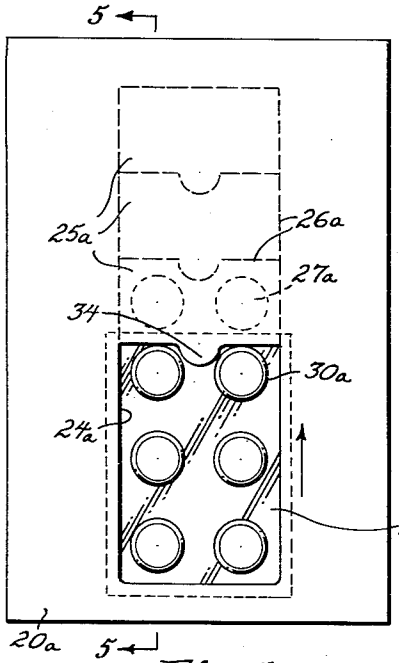


Fig. 4.

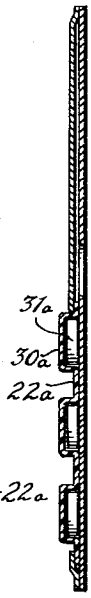


Fig. 5.

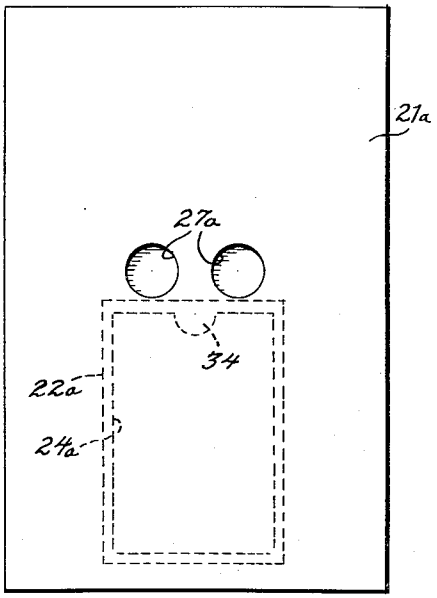


Fig. 6.

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Feb. 14, 1961 C. G. ALLISON ET AL 2,971,638

DISPENSING CONTAINERS

Filed May 24, 1956 2 Sheets-Sheet 2

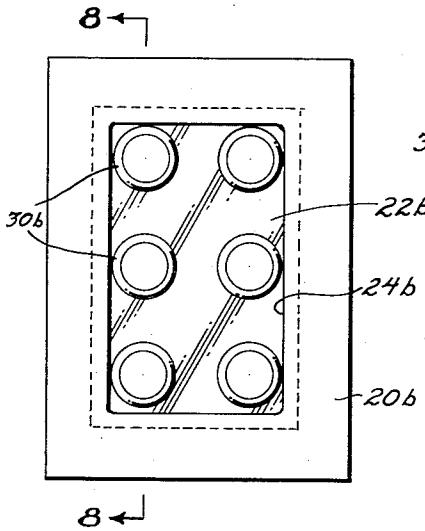


Fig. 7.

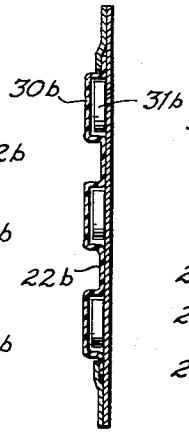


Fig. 8.

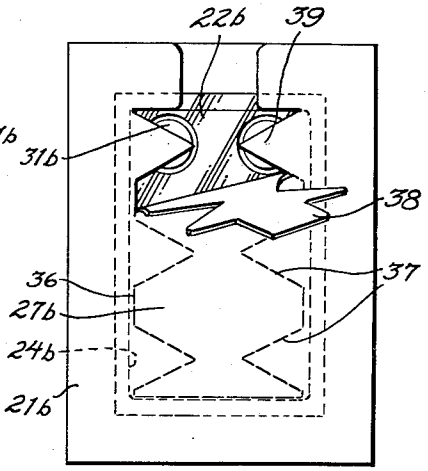


Fig. 9.

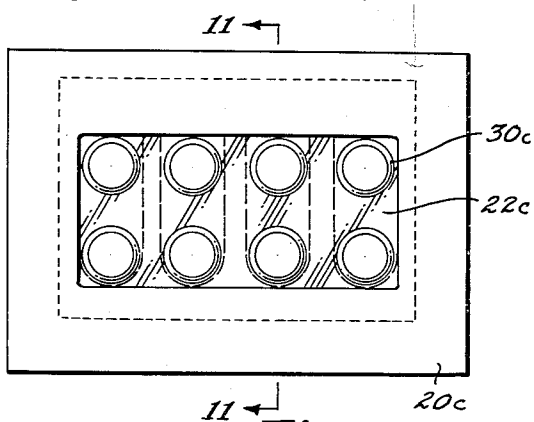


Fig. 10.

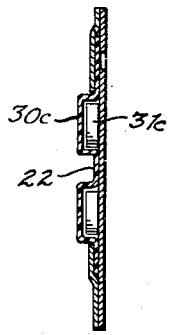


Fig. 11.

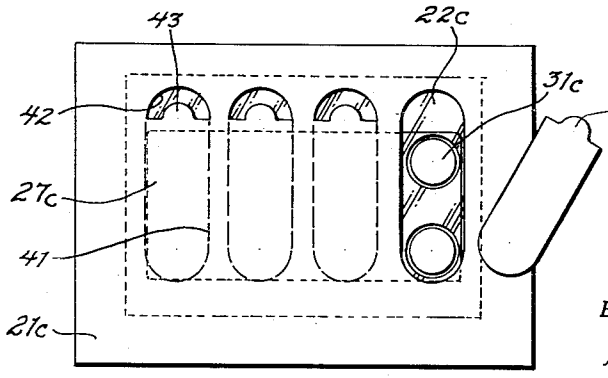


Fig. 12.

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DISPENSING CONTAINERS

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3 Claims. (Cl. 206—42)

This invention relates generally to dispensing containers or packages, and is particularly directed to devices for containing and dispensing pills or pellets, say of medicinal ingredients.

The particular embodiment of the present invention, which is illustrated in the drawings and which will be described hereinafter in greater detail, comprises generally a sheet formed with indentations or recesses opening toward one side of the sheet and adapted to receive pills, and an additional sheet arranged in facing engagement with said recessed sheet to close the recesses thereof, and outlet means provided in the last mentioned sheet for discharging the pills from the recesses exteriorly of both sheets.

It is a general object of the present invention to provide a dispensing container of the type described which is simple and inexpensive in construction, extremely easy to operate, highly attractive in appearance, and which enables the contents and advertising indicia to be advantageously displayed, if desired.

It is a further object of the present invention to provide a pill dispensing container having the characteristics mentioned in the foregoing paragraph, which is durable and reliable in use, light in weight, and small in size, being substantially flat for convenience in mailing or carrying on the person of the user.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

Figure 1 is a front view showing a dispensing container of the present invention;

Figure 2 is a sectional view taken substantially along the line 2—2 of Figure 1;

Figure 3 is a back view of the device of Figure 1;

Figure 4 is a front view showing a slightly modified form of dispensing container constructed in accordance with the present invention;

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 4;

Figure 6 is a back view of the device of Figure 4;

Figure 7 is a front view showing another slightly modified dispensing container of the present invention;

Figure 8 is a sectional view taken substantially along the line 8—8 of Figure 7;

Figure 9 is a rear view of the device of Figure 7 and illustrates an intermediate stage in use of the device;

Figure 10 is a front view showing still another slightly modified form of dispensing container constructed in accordance with the present invention;

Figure 11 is a sectional view taken substantially along the line 11—11 of Figure 10; and

Figure 12 is a rear view showing the device of Figure 10, and illustrating an intermediate stage in use of the device.

Referring now more particularly to the drawings, and specifically to Figures 1–3 thereof, the embodiment of the invention illustrated therein comprises a pair of front and back outer sheets 20 and 21 arranged in facing relation with respect to each other, and an inner or intermediate sheet 22 located in sandwiched relation between the outer sheets. The outer sheets 20 and 21 may be of rectangular outline configuration, as illustrated, or otherwise if desired, and are preferably fabricated of a single piece of cardboard folded upon itself, with the marginal edge portions of the outer sheets suitably secured together in facing engagement, as by adhesive or the like.

Preferably centrally of the front sheet 20 is formed a generally circular aperture or opening 24; and, a stop or tab 25, preferably connected to the bounding edge of the opening 24 by a fold line 26, extends generally radially inward into and terminates short of the center of the opening. Formed in the outer, back sheet 21, directly behind and of an area smaller than the tab 25, is an outlet opening or aperture 27.

The inner sheet 22, preferably fabricated of transparent plastic material, is of a generally circular configuration and has a diameter slightly larger than that of the front sheet opening 24. Further, the inner sheet 22 is sandwiched between the outer sheets 20 and 21 substantially concentric with the front sheet opening 24, and is connected to the back sheet 21 by an eyelet or rivet 29 extending centrally through the inner sheet to mount the latter for axial rotation relative to the outer sheets. The inner sheet 22 is formed with a plurality of depressed, cup shaped portions 30 arranged generally circularly at substantially equal radial distances from the pivotal axis defined by the eyelet 29 and spaced inwards from the peripheral edge of the inner sheet so as to protrude through the front sheet opening 24 and open toward the back sheet 21. The depressed portions 30 define recesses each of a size and shape to receive one or any desired number of pills or pellets 31; and, the recesses are normally all closed by the back sheet 21 to prevent unintentional removal of the pills from the recesses. As best seen in Figure 1, the recessed portions 30 or protrusions defined thereby, are all equally spaced from each other, with the exception of one adjacent pair of recessed portions, the lowermost pair in the drawing, which are spaced apart sufficiently to receive there between the tab 25. That is, in the position illustrated in the drawings, the tab 25 is located closely overlying the inner sheet region 32 intermediate the lowermost pair of recessed portions 30, and serves to prevent inadvertent rotation of the inner sheet by abutting engagement with one of the recessed portions upon incipient rotation of the inner sheet.

However, when it is desired to dispense a quantity of pills contained in one of the recessed portions 30, it is only necessary to bend the stop tab 25 forward out of the path of movement of the recessed portions, thereby allowing the latter to be successively positioned in registry with the back sheet outlet opening 27. The recessed portion thus positioned in registry with the aperture 27 communicates through the latter with the exterior of the back sheet, so that the contained quantity of pills may be discharged directly through the back sheet to the exterior of the container or package. Any desired number of recessed portions 30 may thus be emptied, by merely successively positioning the recessed portions in registry with the outlet opening 27; and, discharge of the contents remaining in the recessed portions may be prevented by returning the inner sheet to its original position of rotation and bending the stop tab 25 toward the inner

sheet into the path of movement of the recessed portions.

While the outer sheets **20** and **21** have been described as formed of cardboard, and the inner sheet **22** of transparent plastic, which has been found desirable in attractively decorating the device and presenting the pills to the user's view, it is appreciated that a wide variety of other suitable materials may be employed, if desired.

In Figures 4–6 are shown a slightly modified form of pill dispensing container constructed in accordance with the present invention, wherein a pair of front and back sheets **20***a* and **21***a* are arranged in facing relation with respect to each other and serve to sandwich there between an inner or intermediate sheet **22***a*. The outer sheets **20***a* and **21***a* may be formed of a single piece folded upon itself, or of separate pieces having their marginal edge portions secured together in facing engagement by any suitable means. The front sheet **20***a* is provided centrally thereof with an elongate opening **24***a* having a plurality of removable stop elements **25***a* detachably secured in one end region of the opening, the upper end region as seen in the drawings. More particularly, the stop elements **25***a* are arranged in aligned contiguous relation with respect to each other, longitudinally of the sheets **20***a* and **21***a* and the opening **24***a*, and detachably secured together and in the front sheet opening by perforate severance lines **26***a* or the like. Each stop element **25***a* is preferably of generally rectangular configuration and provided with an inwardly extending pull tab or extension **34** to facilitate individual manual detachment and removal of the stop elements successively in the outward direction away from the inner sheet **22***a*.

Underlying the innermost stop element **25***a*, that stop element adapted to be removed first, are outlet openings or apertures **27***a* formed in the back sheet **21***a*.

The inner sheet **22***a* is of a configuration slightly larger in the lateral direction than the front sheet opening **24***a* and arranged with its side margins slidably received beneath the side margins of the front sheet opening, so that the inner sheet is slidably retained between the outer sheets, for reasons appearing presently in greater detail. Formed in the inner sheet **22***a*, spaced longitudinally there along, are a plurality of depressed portions **30***a*, each of which defines a protrusion projecting forward into the front sheet opening **24***a* and a recess opening rearward towards and being closed by the back sheet **21***a*. More particularly, the recesses **30***a* are spaced inward from the peripheral edges of the inner sheet **22***a* so as to lie within the front sheet opening **24***a*, in the lower end region thereof as seen in the drawing, and are each shaped to receive a desired quantity of pills or pellets **31***a*. Thus, the recesses **30***a* are all closed by the back sheet **21***a*, in the illustrated condition; and, the inner sheet **22***a* and its contained pills **31***a* are mounted for longitudinal shifting movement limited by engagement of the end recesses **30***a* with edge portions of the opening **24***a* and innermost stop element **25***a*.

Upon removal of the innermost stop element **25***a*, as by severance of the latter from the front sheet **20***a* along its severance lines **26***a*, the inner sheet **22***a* is shiftable longitudinally (upward in the drawing), until the recessed portions **30***a* engage with the next adjacent, undetached stop element **25***a*. Such shifting movement of the inner sheet **22***a* will place the uppermost recesses **30***a* in registry with the outlet apertures **27***a*, so that pills may be discharged exteriorly of the device through the latter apertures. This procedure may be repeated by removing the next adjacent stop element **25***a*, which will enable the inner sheet **22***a* to be shifted further upward to place other recesses **30***a* in registry with the outlet apertures **27***a* for discharging additional quantities of pills.

Another embodiment of the instant invention is illustrated in Figures 7–9, wherein **20***b* and **21***b* denote front and back, outer sheets arranged in facing relation with respect to each other and having their marginal portions secured together in facing engagement. The front sheet **20***b* is formed with a generally rectangular, central opening **24***b*; and, the back sheet **21***b* is perforated or otherwise scored to define a generally longitudinally extending removable portion or outlet section **27***b*.

Interposed in sandwiched relation between the front and back sheets **20***b* and **21***b* is an inner, preferably transparent sheet **22***b*. The inner sheet **22***b* is preferably of an outline configuration slightly larger than that of the front sheet opening **24***b*, and provided with a plurality of depressed portions **30***b* protruding forward through the front sheet opening and defining recesses facing toward the back sheet **21***b*. The recesses **30***b* are adapted to contain pills **31***b* and are closed by the back sheet **21***b* to retain the pills in the recesses.

In Figure 9, wherein the removable portion **27***b* is partially removed, it is seen that the removable portion is defined by a perforate crease or otherwise severable outline **36** shaped to define a plurality of notches **37** each located in the region of a respective inner sheet recess **30***b*. The outline configuration of the removable section **27***b* also defines a pull tab **38** extending outwards to the peripheral edge of the back sheet **21***b* and affording a grasping tab for manually detaching or removing the section **27***b* from the back sheet **21***b*. When the section **27***b* is removed from the back sheet **21***b* by severance along the perforate outline **36**, each of the notched portions **37** will leave a finger, tongue or projection **39** underlying the adjacent recess **30***b* on the open side thereof and preventing removal of the recess contents. Thus, the fingers or tongues **39** serve to retain the pills **31***b* in their respective recesses **30***b* even after detachment of the removable section **27***b*. However, the pills may be removed from one or more of the recesses by merely bending the fingers or tongues **39** away from their respective recesses, so that the pills may be discharged through the back sheet **21***b* exteriorly of the containing device.

Still another modification of the present invention is illustrated in Figures 10–12, wherein **20***c* and **21***c* designate a pair of front and back, outer sheets arranged in facing relation and having their marginal portions secured together in facing engagement. The front sheet **20***c* may be substantially identical to the front sheet **20***b* of Figures 7–9. A preferably transparent inner sheet **22***c* is sandwiched between the outer sheets **20***c* and **21***c*, and may be similar to the inner sheet **22***b*, being provided with a plurality of depressed portions **30***c* defining protrusions projecting through the front outer sheet **20***c* and recesses opening toward the back, outer sheet **21***c*. Thus, the recesses **30***c* are adapted to contain pills **31***c* and be closed by the back sheet **21***c* for retaining the pills in the recesses.

The back sheet **21***c* is provided in the regions adjacent to the recesses **30***c* with removable portions or outlet sections **27***c*, the removal of which opens the associated receses to the exterior of the container. In particular, each of the removable sections **27***c* is formed in the back sheet by a perforate or otherwise severable score line **41** and a cut out or aperture **42** defining a free edge portion or pull tab **43** on the removable section. As will be observed in Figure 12, the rightmost outlet section **27***c* has been removed from the back sheet **21***c*, to thereby open the adjacent recesses **30***c* and enable the contained pills **31***c* to be discharged exteriorly of the container directly through the back sheet.

From the foregoing, it is seen that the present invention provides a dispensing container or package for pills which fully accomplishes its intended objects, and is well adapted to meet practical conditions of manufacture and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A dispensing container for pills comprising a form-retaining transparent inner sheet provided with a plurality of pill-receiving indentations spaced from the periphery of said sheet and defining recesses on one side of said sheet and protrusions on the other side of said sheet, a pair of outer sheets arranged in facing relation with respect to each other on opposite sides of said inner sheet and having their marginal-edge portions secured in facing engagement beyond the periphery of said inner sheet, the outer sheet on said other side of said inner sheet being provided with an opening receiving said protrusions, outlet means provided on the outer sheet on said one side of said inner sheet for passing pills outward from said recesses through said last-mentioned outer sheet, said inner sheet being mounted on the outer sheet on said one side of said inner sheet for rotation relative to the last-mentioned outer sheet, said recesses being arranged circularly on said inner sheet about the axis of inner-sheet rotation, whereby rotation of said inner sheet successively positions said recesses in communication with said outlet means, and a stop tab extending from the bounding edge of said opening in the outer sheet on said other side of said inner sheet and into said opening for normal disposition in the path of movement of said protrusions, said tab thus normally engageable with an adjacent one of said protrusions to limit movement of the latter and being swingable out of the path of protrusion movement to allow rotation of said inner sheet.

2. A dispensing container for pills comprising a form-retaining transparent inner sheet provided with a plurality of pill-receiving indentations spaced from the periphery of said sheet and defining recesses on one side of said sheet and protrusions on the other side of said sheet, a pair of outer sheets arranged in facing relation with respect to each other on opposite sides of said inner sheet and having their marginal-edge portions secured in facing relation beyond the periphery of said inner sheet, the outer sheet on said other side of said inner sheet being provided with an opening receiving said protrusions, outlet means provided on the outer sheet on said one side of said inner sheet for passing pills outward from said recesses through said last-metioned outer sheet, said inner sheet being mounted on the outer sheet on said one side of said inner sheet for rotation relative to the last-mentioned outer sheet, said recesses being arranged circularly on said inner sheet about the axis of inner sheet rotation, whereby rotation of said inner sheet successively positions said recesses in communication with said outlet means, and a stop tab extending from the bounding edge of said opening in the outer sheet on said other side of said inner sheet and into said opening for normal disposition in the path of movement of said protrusions, said tab thus normally engageable with an adjacent one of said protrusions to limit movement of the latter and being swingable out of the path of protrusion movement to allow rotation of said inner sheet.

3. A dispensing container according to claim 2, in combination with pivot means connecting said inner sheet centrally thereof to the outer sheet on said one side of said inner sheet for rotation of said inner sheet relative to said last-mentioned outer sheet.

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