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3,004,566

PILL DISPENSER

Filed Jan. 9, 1958

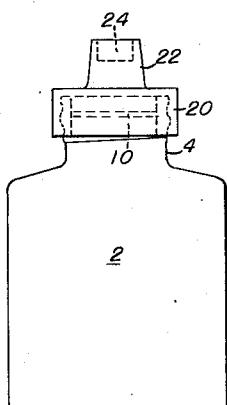


FIG. 1

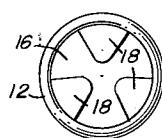


FIG. 2

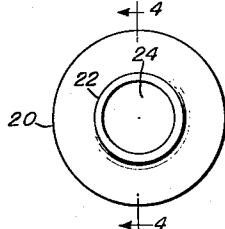


FIG. 3

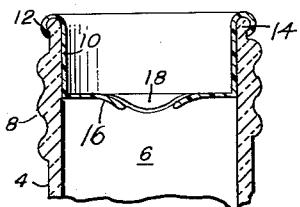


FIG. 5

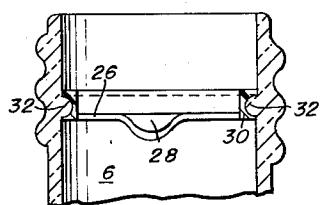


FIG. 8

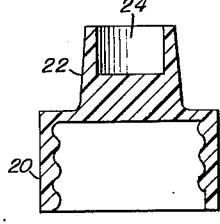


FIG. 4

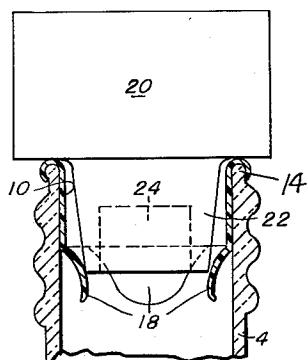


FIG. 6

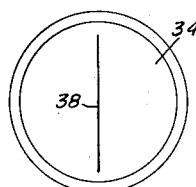


FIG. 9

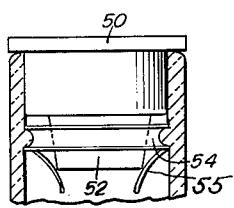


FIG. 12

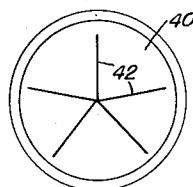


FIG. 10

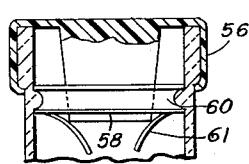


FIG. 13

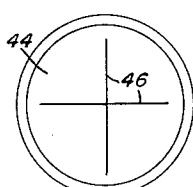


FIG. 11

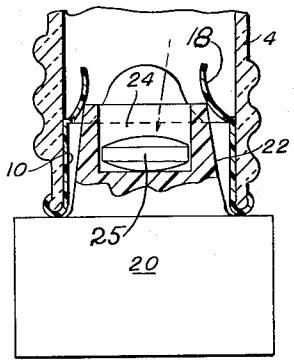


FIG. 7

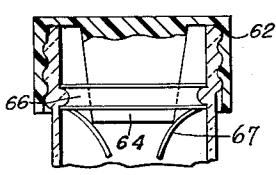


FIG. 14

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PILL DISPENSER

Anthony S. Raimo, 89 Mary Ann Lane, Wyckoff, N.J.
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1 Claim. (Cl. 141—18)

This invention is a pill or tablet dispenser, for dispensing one or two pills or tablets at a time.

Physicians are called upon daily to treat patients, most frequently children, who have improperly obtained bottles of drugs in pill or tablet form, such as aspirin tablets, barbiturates, sleeping pills, laxatives, tranquilizers, and similar drugs. These patients, particularly the younger ones, frequently consume a dangerous quantity of such pills and are thereby injured, many times quite seriously. The necessary treatment for such patients is often required to be given after the injury has been suffered and often is too long delayed to prevent serious injury or death. The purpose of this invention is to prevent persons, particularly young children, from consuming such drugs in pill or tablet form, and thereby to forestall the need for more serious treatment after the pills have been consumed.

The principal object of the present invention is to provide a pill or tablet receptacle which will dispense only one or perhaps two pills or tablets at a time, and which will require some manipulation or skill on the part of the user. The receptacle is so designed as to make its operation relatively easy for adults, but relatively difficult, time consuming, and perhaps impossible for children. It is so designed as to make it, at best, impossible for a child to operate or, at least, sufficiently involved in its operation to discourage a child from taking too many pills or tablets.

More specifically, the present invention, a pill or tablet dispenser, hereinafter referred to as a bottle, is comprised of a cap or closure used in connection with a flexible barrier secured in or on the neck of the pill bottle, which barrier extends transversely across the neck of the bottle and which normally prevents the exit of any pill, even when the bottle is held upside down. This barrier is comprised of resilient portions or fingers which can be spread apart for the exit of a pill or tablet.

The terms "pill" or "tablet," as used herein, are used interchangeably as to mean substantially the same thing.

Cooperating with the described barrier is a projection having a pill receiving recess, preferably attached to and forming a part of the closure cap of the bottle and extending in a direction opposite to the threaded portion. This tube or projection is of relatively small diameter and length, so that it can receive one, and only one pill, or two at the most. The closure is preferably threaded to cooperate with the usual threads on the bottle, but the closure could be of the well known friction cap type, which engages the inside or outside of the neck of the bottle.

In operation, the user removes the cap, reverses it, pushes the tube or projection having a pill receiving recess therein down into the neck, which pushes its way through the resilient barrier so that its lower end is beyond the barrier. The bottle is then reversed, a pill or two will enter the pill receiving recess, the cap is removed, the barrier closes automatically and the user thereby is provided with a pill.

Where the closure or cap is the well-known friction-cap type, the cap or closure, when in position, would extend into and through the resilient barrier separating the same so that if the bottle is reversed, a pill or tablet or two pills or tablets will enter the tube and when the cap or closure is removed, the barrier will automatically close and the user thereby is provided with a pill or tablet.

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The invention will be further described in more detail in the accompanying drawings, showing several ways of carrying out the invention.

In the drawings:

5 FIG. 1 is a side elevation of the pill dispenser of this invention;

FIG. 2 is a plan view of the pill barrier;

FIGS. 3 and 4 are plan and vertical sectional views of the closure cap;

10 FIG. 5 is an enlarged sectional view of the barrier, in place in the neck of the bottle;

FIGS. 6 and 7 are sectional elevations, showing successive positions of the pill-receiving tube;

15 FIG. 8 is a vertical section showing a modified barrier; and

FIGS. 9, 10 and 11 are plan views of three other modified barriers.

FIG. 12 is a vertical section of a modification where the cap or closure is of the friction type;

20 FIG. 13 is a vertical section of a modification where the cap or closure is of the snap-on type;

FIG. 14 is a vertical section of a modification where the closure is threaded and the pill or tablet receiving member projects downwardly instead of upwardly as in 25 FIG. 4.

Referring now to the drawings, the pill receptacle, here shown as a bottle 2, is provided with neck 4, providing the opening 6 and provided with the usual screw threads 8. The pill barrier comprises a body portion 10, anchored 30 in place by adhesive, or by a rolled edge 12 permanently engaged over an upper bead 14 on the neck, or both.

This barrier is provided across its bottom 16 with a plurality of radially and inwardly extending resilient fingers 18, positioned in a plane substantially perpendicular to the delivery opening 6 and close enough together to bar the passage of a pill.

Cooperating with this barrier is a closure cap 20, threaded to engage with the neck threads 8. Extending in a direction opposite to the cap is a recessed pill-receiving projection 22, open only at the top, to provide a recess 24 to receive only one or two pills.

In use, the cap is removed and reversed and pressed into the bottle neck, forcing its way past the resilient fingers 18, as in FIG. 6. The bottle is now reversed, 45 as in FIG. 7 so that a pill or two 25 drops into tube 24. The cap is now removed, the resilient fingers snap back into place and prevent the exit of any more pills and the user removes the pill from recess 24.

In the modification shown in FIG. 8, the barrier 26 50 is provided with inwardly extending resilient fingers 28 as before and is provided with an annular channel 30 permanently anchored with adhesive over an annular bead 32 in the bottle neck.

In FIG. 9, the barrier 34 is in the form of a resilient 55 disk such as rubber or the like, slotted at 38, so as to be opened readily by the tube 22; in FIG. 10, the barrier 40 is of rubber or the like, provided with radial slits 42, readily operable by tube 22. Barriers of the type shown in FIGS. 9, 10 and 11 could be used to form 60 the bottom 16 of FIG. 5 or could be anchored in place as in FIG. 8.

In FIG. 11, the barrier 44 is provided with perpendicular slits 46. In FIGS. 9, 10 and 11 the portions of the several barriers adjacent the slits constitute resilient fingers within the meaning of the claims.

In FIG. 12, the closure 50 is of the known friction plug type, provided with a pill receiving member 52, recessed as in FIG. 4, to receive one or two pills. In this form, the member 52 projects downwardly, instead 70 of upwardly, as in FIG. 4. The barrier 54 is provided with resilient fingers 55, which bar the exit of a pill when the closure is removed.

In FIG. 13, the closure 56 is of the known snap-on type, provided with a pill receiving member 58, recessed as in FIG. 4 to receive one or two pills. In this form, member 58 projects downwardly and the barrier 60 is provided with resilient fingers 61, which bar the exit of a pill when the closure is removed.

In FIG. 14, the closure 62 is of the known threaded type, provided with a pill receiving member 64, recessed as in FIG. 4, to receive one or two pills. In this form, member 64 projects downwardly and the barrier 66 is provided with resilient fingers 67 which bar the exit of a pill when the closure is removed.

The resilient fingers forming the pill barrier in FIGS. 8 to 14 are normally positioned in a plane substantially perpendicular to the pill delivery opening.

Reversal of the receptacles of FIGS. 12, 13 and 14 allows one or two pills to drop into the recessed closure and when the closure is removed, any further passage of a pill is prevented by the barriers.

The described parts could, of course, be made of any desired materials, such as metal or any of the well known plastics.

While several forms of the invention have been described, the invention is not limited to the precise details shown, but may be carried out in other ways. The recessed closure 22 is preferably of a size to take one, and only one, pill or tablet but it could be made a little larger, for two pills or tablets.

I claim:

In combination with a receptacle for pills, having a delivery opening for the pills, a barrier member positioned in said delivery opening and attached to the inner wall of said delivery opening, said barrier member comprising a plurality of flexible, radially extending members, ex-

tending inwardly and transversely across said delivery opening in a plane substantially perpendicular to said delivery opening, said receptacle being provided with an exteriorly threaded neck; and a cap member having interior threads cooperating with the exteriorly threaded neck of the receptacle, said cap member having a projection with a pill receiving recess therein, said projection extending in a direction opposite to the threaded portion of said cap member, said projection, when the cap is removed and reversed, being adapted to be forced through said barrier member into the receptacle, and, when the receptacle is reversed, to receive one pill into the pill receiving recess thereof.

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