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[54] **PILL DISPENSER WITH INDICATING MEANS**
 2 Claims, 6 Drawing Figs.

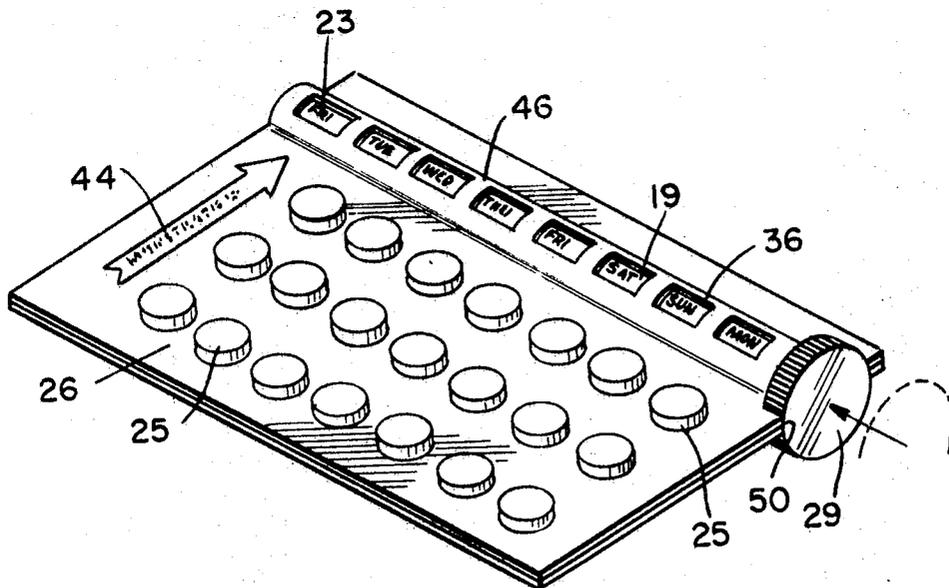
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ABSTRACT: A package of pills arranged in a predetermined pattern for sequential consumption is provided with a roll calendar having a plurality of indicia adjustable for correct alignment with the pills for indicating the time each pill is to be taken.



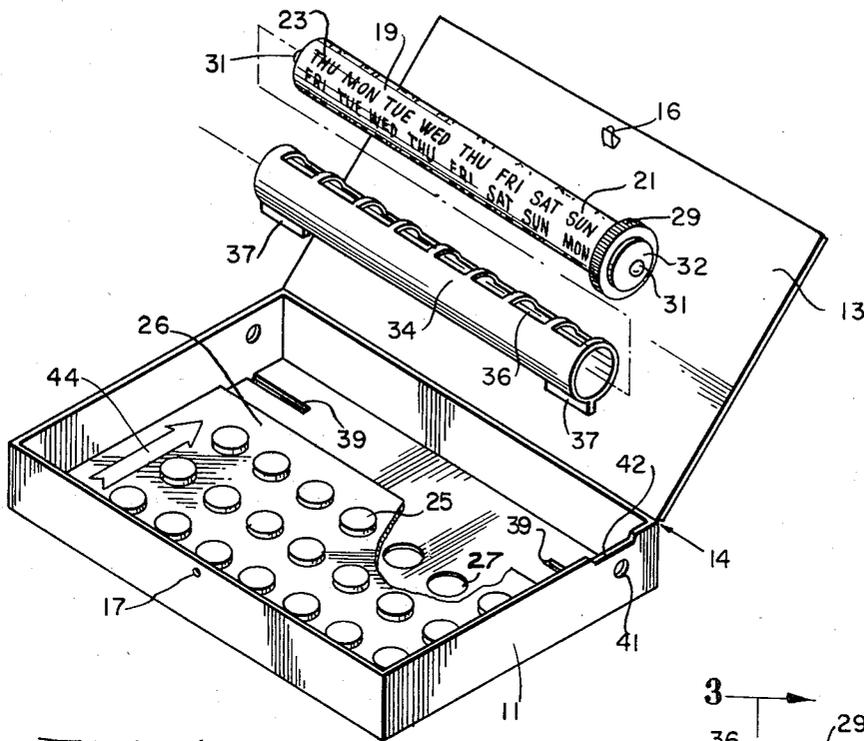


Fig. 1

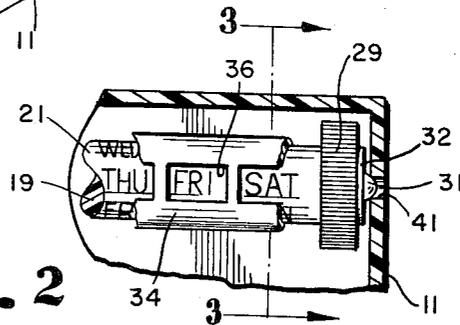


Fig. 2

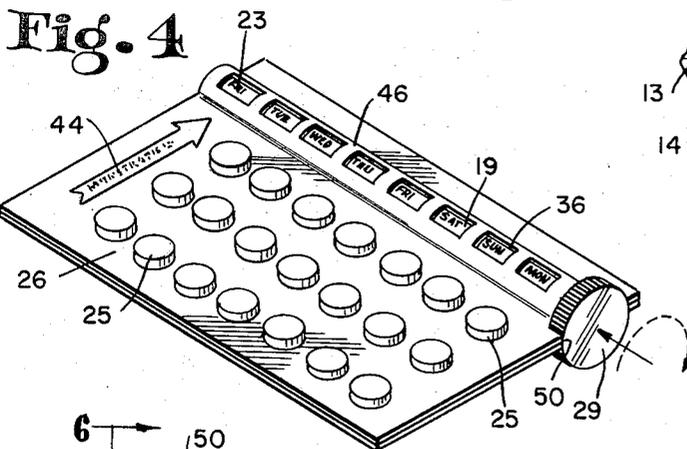


Fig. 4

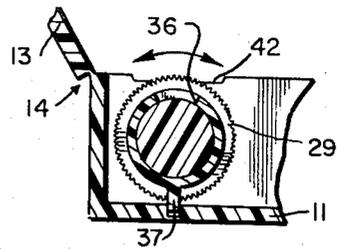


Fig. 3

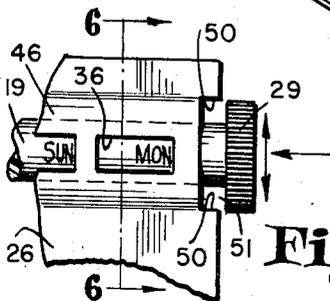


Fig. 5

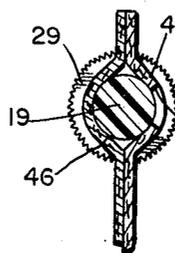


Fig. 6

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PILL DISPENSER WITH INDICATING MEANS

BACKGROUND OF THE INVENTION

This invention relates to a pill dispenser and in particular to a pill dispenser having means for automatically indicating the removal of each pill from the dispenser. It is to be understood that for the purposes of this description the term "pill" includes tablets, capsules and other items for consumption at prescribed intervals.

In writing out prescriptions it is generally the practice of physicians to state that a pill should be taken at prescribed intervals. The intervals may be only a matter of hours, or, on the other hand, may be on the basis of one per day, or perhaps one every other day. In any event, it is essential that the user be able to determine whether or not he has taken a pill for that interval since it is quite possible that his memory will fail him. Various devices have been contrived in which the user, upon taking a pill from the dispenser or container, will, in a separate physical action, record this fact. For those persons who are always able to remember to make a recording mark or other similar act, such a procedure is sufficient. However, many a person has tended to forget entering on his own personal record the fact that he has taken a pill for a specified day. Thus, he is confronted with the problem of trying to remember whether or not he actually took a pill for that interval.

Various dispensers have been designed with automatic indicating means coordinated with specially arranged pills. For example, pills have been spring loaded in tubes or disposed in a unique pattern to provide accurate coordination with an adequate indicating means. In such dispensers of the prior art it has been necessary to develop suitable equipment for efficiently and quickly loading the dispenser with pills. In addition, such equipment has had to provide means for assuring sanitation of the pills during loading of the dispenser. Furthermore, the dispenser necessarily had to be designed to easily receive the pills; and, consequently, the pills in some instances were not fully sealed from the atmosphere. Thus, the pills could be affected by moisture in the atmosphere as well as being subjected to possible contamination.

SUMMARY OF THE INVENTION

The dispenser of this invention has been designed to receive conventionally packaged pills which are individually wrapped and therefore well protected from contamination. In particular, these pills are packaged in blister packages having foil backing or other easily tearable material and a covering formed from thin plastic material with individual recesses for the pills. Thus, no investment in new equipment is necessary to load the dispenser of this invention inasmuch as a conventional blister package of pills is simply inserted into the dispenser. The indicating means of my dispenser comprises an elongated device bearing a plurality of indicia which may be the days of the week or smaller increments such as divisions of the days into hourly periods. This indicating means is positioned in association with a pill-containing card to maintain its indicia in registered alignment with the pills in the blister package. The indicating means is rotatable in order to initially align the appropriate indicium with the first pill to be taken on a designated day or hour. No additional setting of the indicating means is needed until a new supply of pills is provided. The indicating means may be secured directly to the top of the blister package or may be placed in a container along with the blister package, thereby providing an opportunity for a more ornamental dispenser.

Thus, it is one object of this invention to provide a new and improved pill dispenser utilizing a conventional blister package of pills. Another object of this invention is to provide a low-cost dispenser which may be used indefinitely for periodical refills. A further object of this invention is to provide a dispenser having an indicating means to enable the patient to readily determine whether or not he has taken a pill for the prescribed interval.

Other objects and advantages of this invention will be made apparent upon reading the following disclosure in conjunction with the drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the pill dispenser of this invention with the roll calendar exploded to more clearly disclose its structure.

FIG. 2 is an enlarged and partial view of the roll calendar.

FIG. 3 is a view in cross section of the roll calendar taken along line 3-3 of FIG. 2.

FIG. 4 is a perspective view of a modified embodiment of the dispenser of this invention.

FIG. 5 is an enlarged and partial view of the roll calendar of FIG. 4.

FIG. 6 is a view in cross section of the roll calendar taken along line 6-6 of FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, the dispenser of this invention is shown having a receptacle 11 with cover 13. However, it is to be understood that the invention herein is not necessarily dependent on having a cover. In this illustrated embodiment receptacle 11 and cover 13 may be formed of a suitable plastic material such as polypropylene or polystyrene in accordance with conventional injection molding techniques. Thus, cover 13 may be hinged to base 11 by an integral thin web of plastic material 14, which is frequently referred to in the molding trade as a "living hinge", or by conventional ball and socket hinges. Cover 13 may be provided with a latch element 16 which cooperates with a hole 17 on the base to selectively maintain the receptacle and cover in a closed position. As shown in FIG. 1, the indicating means in this embodiment comprises an elongated roll calendar 19. This indicating means may also be formed from plastic material. Inasmuch as the illustrated dispenser has been designed for assisting the patient to take one pill each day, roll calendar 19 has been provided with seven longitudinal series 21 of the days of the week. Each of the series contains the seven days of the week and an additional day indicium which is the first marking 23 at the left end of the roll calendar. It is to be noted that following the first day indicium 23 each longitudinal series 21 arranges the days of the week in chronological order. The first day indicium 23 for each of these seven series is different from the first day indicium for each of the other longitudinally-arranged series.

In the illustrated embodiment of FIG. 1 the dispenser and roll calendar have been designed to provide for the dispensing of oral contraceptive pills 25 for 21 days, commencing with the fifth day after menstruation. Thus, if the first indicium 23 in a series 21 is Friday, the next succeeding indicium in that series will be Tuesday, followed in chronological order by the next six calendar days. In the event the first day for taking a pill is not subsequent to a particular physical event the seven peripherally arranged first indicia 23 may be omitted.

Receptacle 11 contains a plurality of individually wrapped pills 25. These pills may be formed in individual conforming blisters molded from a transparent plastic material that is easily depressed. Card-like blister packages 26 of this nature are well-known in the art and generally have a foil backing or other backing of similar rupturable material. Thus, a pill is removed from its blister by depressing the top of the blister to force the pill through its rupturable backing. Therefore, in order to force each pill from its blister and receptacle 11, the receptacle may be provided with individual apertures 27 which are in direct alignment with the pills.

Roll calendar 19 has a knurled knob 29 at its right end. A pair of small hubs 31 are placed at the left end of the roll calendar and on the end of a disk-like projection 32 extending from knob 29. A roll calendar retaining means 34 is provided for holding the selected indicia on the roll calendar in alignment with the pills. Retaining means 34 comprises a hollow cylindrical member having an inner diameter substantially

equal to the outer diameter of the roll calendar whereby a snug but rotatable fit is obtained therebetween. Eight spaced windows 36 are formed on retaining means 34 whereby each window serves as a reference means and reveals a single indicium on the roll calendar.

The roll calendar is assembled within retaining means 34 by inserting it therein with knob 29 substantially flush to the right end of the retaining means. This assembly is then placed in receptacle 11 with lugs 37 inserted into slots 39 formed in receptacle 11. As the lugs are inserted into their respective slots the pair of hubs 31 snap into respective holes 41 in opposite sides of the receptacle (FIG. 2).

As shown in FIG. 3, knob 29 is of such a diameter that it extends slightly above a cutout portion 42 in receptacle 11 without obstructing the closing of cover 13. The blister package 26 of pills 25 is placed on the bottom of receptacle 11 whereby arrow 44 (FIG. 1) aligns with the first indicium 23. This blister package may be removably mounted in receptacle 11 by a force-fit or by small lugs (not illustrated) which overhang along the sides of the package.

With the dispenser now assembled and the pills loaded in receptacle 11 the roll calendar 19 may be rotated to the proper day for taking the first pill. Thus, in the particular embodiment, roll calendar 19 is rotated until the correct first indicium 23 corresponds with the first day of menstruation. The second indicium in the single exposed series of days 21 will automatically read out as the fifth day after the onset of menstruation. This day is aligned with the uppermost left pill for consumption. In order to assure the proper taking of a particular pill with its respective day, each pill may be provided with a number adjacent it whereby the numbers 1 through 21 are successively marked on the blister package 26. Thus, as the top row of pills is consumed, the person begins on the second row which is also in alignment with the second through eighth days showing on the roll calendar. After all three rows of pills are exhausted, the blister package may be removed and a new one inserted with the roll calendar being accordingly repositioned for indicating the first day for taking a pill.

In the modified embodiment of this invention shown in FIGS. 4 through 6, roll calendar 19 is directly coupled to the blister package 26 of pills 25. As shown in FIG. 6, the uppermost portion of the blister package may be formed of substantially rigid cardboard to provide a cylindrical chamber 46. This chamber has a plurality of windows 36 serving as the

reference means, similar to those found in the retaining means 34 of the first embodiment. Knob 29 on the second embodiment is knurled to a degree whereby the individual knurls will interlock with edges 50 which define the cutout portion 51 at the extreme right side of the blister package, thereby preventing accidental rotation of the roll calendar. To set the roll calendar for the appropriate days of the week, knob 29 is disengaged from edges 50 by sliding it to the right relative to chamber 46. The knob may then be rotated, and as the correct days appear through windows 36, knob 29 is then pushed back into cutout portion 51. The operation of this modified embodiment of my invention is similar to that of the first embodiment. An advantage of this arrangement is the elimination of a plastic box thereby reducing the size of the dispenser. Ornamentation can be added by providing this card-like package with an integral and decorative paperboard cover, not unlike a matchbook type.

Although only two embodiments of this invention have been illustrated and described, it will be apparent to those with skill in the art that additional modifications can be made without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. A pill dispenser comprising a card-like member, a plurality of frangible pill compartments arranged in uniform rows formed in said card-like member, an elongated cylindrical chamber formed integral with said card-like member and positioned parallel to said rows of pills, a plurality of openings formed in said chamber and respectively aligned with said rows of pills, an elongated tubular indicator means rotatably mounted in said chamber and having several series of sequential indicia extending along the length of said indicating means, said indicia being in selective registration with said openings, a reference mark on said card-like member proximate said chamber, said mark cooperating with a select one of said openings.

2. A pill dispenser in accordance with claim 1 in which said card-like member has a cutout portion along an edge thereof concentric with said chamber, a knob having a knurled portion positioned in said cutout portion and mounted to one end of said tubular indicator means for rotation therewith, said knurled portion of said knob cooperating with said cutout portion for selective positioning of said knob.

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