

July 30, 1968

W. R. JENSEN

3,394,796

PILL DISPENSER

Filed July 25, 1967

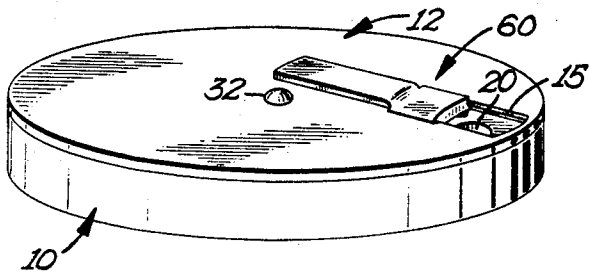


FIG 1

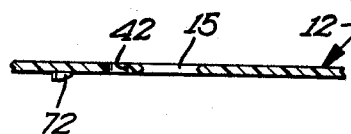


FIG 5

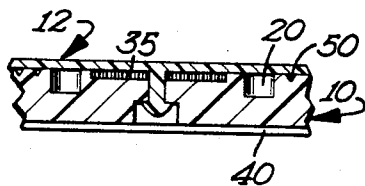


FIG 8

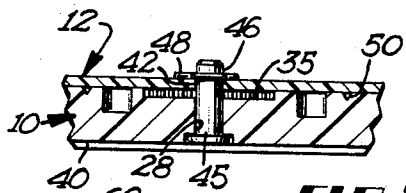


FIG 7

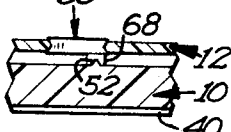


FIG 9

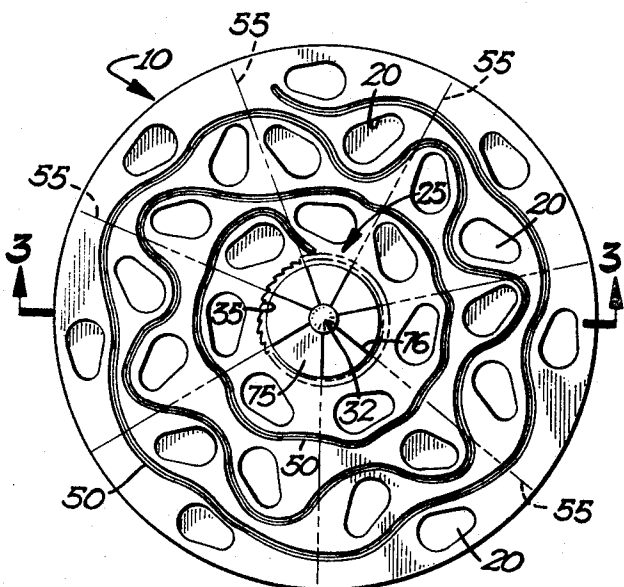


FIG 2

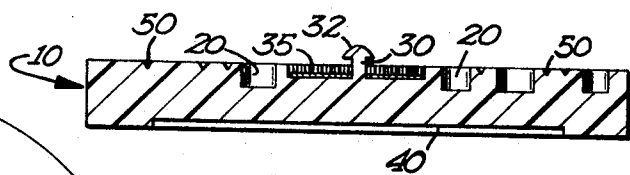


FIG 3

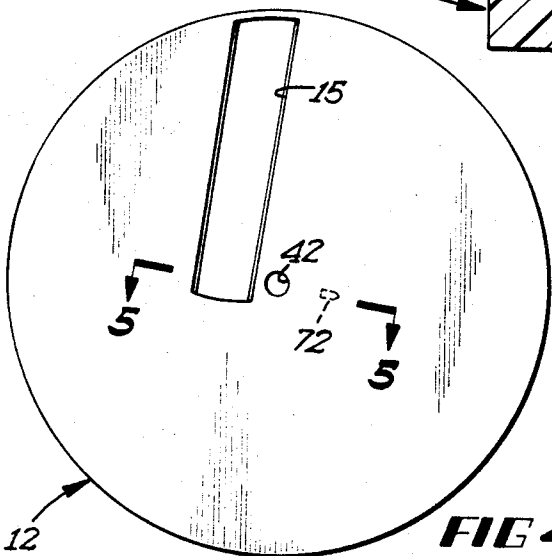


FIG 4

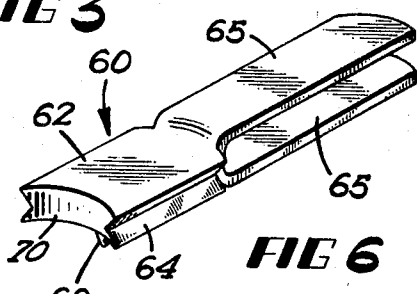


FIG 6

INVENTOR
WARREN R. JENSEN
BY
*Schneider, Siegfried
& Ryan*
ATTORNEYS

1

3,394,796

PILL DISPENSER

Warren R. Jensen, 117 3rd St. NW.,

Valley City, N. Dak. 58072

Filed July 25, 1967, Ser. No. 655,892

14 Claims. (Cl. 206—42)

ABSTRACT OF THE DISCLOSURE

This invention is directed to an improved pill dispenser adapted to be used by druggists and pharmacists in the dispensing of medication in tablet form with a suitable indicia for the user to keep track of the dosages taken. The dispenser is readily assembled and disassembled and may be filled with medication in tablet form of various sizes with provisions for holding and dispensing medication in given amounts and over given periods of time. In the preferred embodiment, a suitable track or guide surface and cooperating follower on the slide will uncover medication progressively for a normal twenty-eight day, one-a-day type prescription dosage.

The present invention relates to dispensing apparatus for medication in tablet form and more particularly to an improved pill dispenser adapted to be fillable by a pharmacist in the dispensing of varying types of medication and applicable thereto.

Dispensing apparatus for medication in tablet form are known and in use. These dispensers at the present time are limited in their application and are normally manufactured and filled with medication by a pharmaceutical manufacturer peculiar to a particular type of medication and not of the re-useable type. Such dispensers normally include indicating apparatus and means for dispensing a single tablet for a given indication. They are particularly applicable to oral contraceptive preparation in tablet form.

The present invention is directed to an improved pill dispenser or dispensing apparatus of this type which is applicable to all types of tablet medication for varying-sized tablets and varying time syllabuses for the particular dosage of such medication. It is adapted to be used by pharmacists in a dispensing of medication in tablet form with interchangeable indicia to correlate the particular type of medication and the dosage with the medical instructions of the prescribing doctor. Further, it will accommodate varying-sized tablets and will insure that only the particular dosage to be taken will be uncovered or available for usage at a particular time period.

The improved pill dispenser includes a base member with appropriate tablet recesses therein and a guide or cam surface which will co-operate with a slide in a cover member. The cover member is adapted to be snapped over the base and secured thereon after filling by a pharmacist. The dispenser may be filled with a particular type of medication prescribed in accord with the user's needs and medical prescription, and the cover part may then be rotated and a slide in the cover member operated by engagement of a projection thereon with a guide or cam surface on the base member so that the slide will uncover tablets for given time indications noted on the indicia. This will keep track of the medication taken and insure that the remaining and unused tablets will be stored so as not to be lost or an over dosage taken accidentally. Further, the improved dispenser is simple in construction and adaptable to varying types of dosages and tablet forms.

2

Therefore, it is the principal object of this invention to provide an improved dispensing apparatus for medication in tablet form.

Another object of this invention is to provide a pill dispenser of this type with indicating apparatus fixed thereto and adjusted by rotation of the dispensing part so as to provide an indication of the dosage dispensed and used.

A still further object of this invention is to provide in apparatus of this type a simplified structure which may be filled by a pharmacist and assembled in a filled relationship to fit any type of medication and for varying time sequences of dosage.

A still further object of this invention is to provide a simplified structure which is low in cost and easy to assemble and use.

These and other objects of this invention will become apparent from a reading of the attached description together with the drawings wherein:

FIGURE 1 is a perspective view of the pill dispenser, FIGURE 2 is a plan view of the base member of the improved dispenser,

FIGURE 3 is an elevation view in section of the base member in FIGURE 2 taken along the lines 3—3 therein,

FIGURE 4 is a plan view of the cover member for the improved pill dispenser,

FIGURE 5 is an elevation view of the slide member for the cover in the improved pill dispenser with parts broken away,

FIGURE 6 is a perspective view of the slide member for the cover of the pill dispenser,

FIGURE 7 is a sectional view of the pill dispenser with parts broken away and taken along the lines 7—7 in FIGURE 1 showing an alternate embodiment of the connection between the cover and the base members,

FIGURE 8 is a sectional view of the pill dispenser with parts broken away and similar to FIGURE 7 showing a further embodiment of the connection between the cover and base members, and

FIGURE 9 is a schematic view showing an alternate version of the guide surface and follower for the improved pill dispenser.

The improved pill dispenser, shown in perspective in FIGURE 1, is of the type which includes indicating apparatus to indicate the time periods within which medication in tablet form is to be taken. It is of the type which is presently supplied by manufacturers of certain types of tablet medication, in particular oral contraceptives, in which the medication as it is supplied to the druggist is prepackaged and nonreusable or changeable type prescriptions. The particular pill dispensers of this type are specifically designed for the particular medication which they contain as manufactured by a particular manufacturer.

The present invention in a pill dispenser, as disclosed herein, is designed to be supplied and sold to local druggists for the purpose of packaging prescription-type drugs of all types in tablet form and to be filled by the local pharmacist with the precise instructions as to how the dosage is to be used. The improved pill dispenser is adapted to be supplied to druggists and pharmacists in disassembled form and assembled with instructions upon filling to provide either a nonrefillable or refillable-type dispenser depending upon the connecting structures between the parts.

It is normal in the dispensing of pharmaceuticals to find drug prescriptions for humans based on a treatment of medication for seven-day periods or multiples of the same. The improved pill dispenser disclosed herein is adapted to package most medication in pill form in the

normal variety of shapes and sizes and may be used with indication for prescriptions calling for multiple tablets in a single day period or a single tablet over a twenty-eight day period or combinations of the same. The particular pill dispenser will uncover only a single pill for a particular period and is transparent so that a ready indication is available of the time period within which the pill is to be taken and whether or not it has been taken. As shown in FIGURE 1, this pill dispenser is comprised basically of a base, indicated generally at 10 and a cover member, generally indicated at 12, and rotatably mounted thereon to be moved relative to the base member. The cover member includes an adjustable dispensing slot 15 through which the pills are removed from a storage in a plurality of tablet-holding recesses 20 in the base member.

As will be seen in FIGURES 1 and 2, this base member is basically a circular, disc-shaped member preferably formed of a plastic material with the tablet-holding recesses distributed about the surface of the same starting from the peripheral edge and extending toward a centrally located hub portion 25. The tablet-holding recesses are generally elliptical and will receive spherical or cylindrical tablets or elliptical tablets of general size for storage and dispensing purposes. The base is preferably made of a plastic material and may be suitably formed by molding or other means of manufacture. It may or may not be transparent. At the center of the same is a structure for mounting the cover thereon and journaling it relative to the base. In the drawings, this may include a cylindrical aperture 28 extending therethrough or an upstanding pedestal 30 with a cliplike extremity 32 thereon. Distributed about the hub portion 25 on the peripheral edge of the same is a serrated or ratchet surface 35 which will generally restrict relative movement to one direction of motion between the cover and the base member. It will also provide a frictional engagement between the cover and base member so that when the cover is mounted thereon and is moved it will be retained in a particular position until manually displaced therefrom. A recess 40, positioned in the bottom surface of the base remote from the tablet recesses 20, provides a surface in which a suitable label or instructions identifying the pharmacy, medication and prescription or prescription number will be applied. This may be done by adhesive or other suitable means.

The cover member 12 is a flat, disc-shaped structure with a recess 42 therein through which the pedestal projection 30, where it is formed integral in the base, will extend such that the clip-like extremity of the same will fit over and secure the cover thereon. As shown in FIGURE 8, an alternate mounting of the cover member on the base member will be provided by forming the aperture in the base member and the pedestal in the cover member to reverse the location of these parts. Similarly, as shown in FIGURE 7, the cover member 12 and the base member 10 may each contain apertures therethrough and a suitable headed rivetlike connector, indicated at 45, may be positioned therethrough with a suitable recess 46 in the rivet being exposed on one or the other surfaces of the base or cover member to receive a suitable clip 48 to retain the base and cover members in assembled relationship, which is readily releasable.

As will be recognized from the drawing, the diametrical dimensions of the base and cover member will be substantially identical. Base 10 also includes a guide or cam surface 50 extending from an outer peripheral edge of the base member spirally toward the central hub 25 of the same and between adjacent tablet recesses as it progresses toward the center hub. As will be indicated in phantom at 55, the tablet recesses are distributed over the upper surface of the base member in seven angular or pie-shaped segments emanating from the central pedestal or aperture 28 of the base member with four recesses per segment. The guide or cam surface may be a groove, as

indicated at 50, or a ridge 52, as shown in FIGURE 9, depending upon the nature of the co-operative camming surface to be associated therewith and located in a slide-member 60 adapted to fit into the slot or recess 15 in the cover 12. The slot is generally rectangular in shape and extends from near the peripheral edge of the cover member 12 to adjacent and one side of the aperture 42 in the cover member. This cover member may also be made of a plastic material and preferably will be transparent so as to provide viewing of the tablets positioned in the base member. The slide 60 has a mounting portion 62 with grooved edges 64 on the sides of the same which are adapted to fit around or slide on the edges of the slot 15. The remaining portion of the slide member includes a pair of spaced plates 65 which will provide a generally bifurcated construction connected to the base or main portion 62 of the slide 60 and normally formed integral therewith. These will be spaced apart the thickness of the cover so that they may slide on the surface of the same as the slide member 60 is moved in the slot from one extremity or position near the peripheral edge toward the center of the same uncovering all of the tablets within the base member. On one surface of the slide member and on the main slide portion 62 is a projecting cam follower 68 which may be formed as a tapered projection adapted to fit into the groove 52 in the base member or could have a notched extremity adapted to ride on a ridge 52 of the camming surface in the base member should this be its construction. It will co-operate with the camming surface 50 or 52 to ride in the same and advance the slider 60 in the slot 15 of the cover member advancing the same from the outer peripheral edge toward the extreme or center position as the cover member is rotated on the base member.

The cover member 12 also includes a dimple or projection 72 formed on one surface of the same which will normally be in contact with the base member and in particular with the ratchet surface 35 of the same to engage the ratchet surface and prevent counter-rotation of the cover member on the base member as well as provide a frictional engagement between the parts so that the cover member when moved to a predetermined position will remain there. The slider member is formed of a flexible plastic material so that it may be slightly distorted to be inserted into the rectangular notch 15 with the grooved edges 64 of the same fitting around the edges of the cover member at the slot to slidably mount the slide member 60 in the slot 15 of the cover member 12. Whenever it is desired to have the movement of the slide member 60 controlled by the camming surfaces, the projection 68 will be turned facing the base member so that in sequence and spirally about the base member, tablets will be uncovered sequentially. In the event that all tablets within a particular angular segment of the base member are to be used in a single day, the slide member 60 will be inverted in position so that the projection 68 will be facing upward and not in contact with the base member. The curved extremity 70 of the slide member can be engaged by the user's finger to manipulate the same sliding it in the slot 15 to uncover in sequence or as desired all of the tablets within a particular angular segment of the base member for a particular day's dosage. Where such a dosage, for example, calls for only two tablets in a particular day, only two such tablet recesses will be filled in any angular segment. The indicating portion of the pill dispenser is provided by a circular indicia having an aperture in the center and positioned on the hub portion 25 of the base member beneath the cover so that it may be viewed through the transparent cover member 12. The indicia 75 will normally have marking lines 76 thereon corresponding to the angular segment and each segment will bear the name of the days of the week to direct the user in the operation of the dispenser to take the proper dosage at a particular day or time period. This indicia will normally be made of a paper

5

6

printed on one surface and with a suitable adhesive on the other surface so that it may contact the hub portion 25 and adhere to the same.

When the pill dispenser is to be filled and assembled by a pharmacist or druggist, the particular information on the medical prescription will advise the druggist of the time periods in which medication is to be taken and the proper dosage. The druggist may then, by hand or automatically, fill the tablet recesses in the base member with the proper medication and affix to the hub portion the particular day indicia to indicate the prescription length. Where medication is to be taken over a twenty-eight day period, all recesses will be filled and the slider member inverted and positioned in the slot 15 so that the projection 68 contacts the co-operative camming surface on the base member so as to follow the same. The day indicia will normally be adjusted so that the particular day the medication being used is to start will correspond with the starting point on the base. The pill dispenser is then assembled by placing the cover on the base member and securing the same thereto for rotatable movement thereon. This can be accomplished by snapping the cover member over the projection 32 on the pedestal of the base, should this be the structure or the inverse of the same should the pedestal be bound on the cover. If a separate journaling rivet is used, a rivet such as 45 with a suitable retaining spring clip 48 may be used to connect the parts together in an assembled relationship. Suitable prescription information and identification may be attached to the lower recess 40 of the pill dispenser at this time. Thereafter the user need merely to rotate the cover on the base in the particular desired time sequence to uncover a tablet for usage. In the event that the prescription calls for a shorter period of time or a greater number of pills per day or time period, the slider 60 may be inverted so that the camming surfaces are not used and the slider merely manually manipulated to uncover a desired number of tablets required for a particular day's dosage.

This improved pill dispenser may be manually loaded or automatically loaded through a grid-type loading device or pre-packaged medical dosages affixed to cellophane-type retainers may be loaded into the pill dispenser as desired.

In considering this invention, it should be noted that the present disclosure is intended to be illustrative only and the scope of the invention should be determined by the appended claims.

What is claimed is:

1. A pill dispenser comprising, a circular, disc-shaped base member having a centrally located mounting means and a series of spaced tablet recesses in its upper surface, a guide surface starting at one point near the peripheral edge of the upper surface of the base member and extending spirally about the upper surface between adjacent tablet recesses toward the centrally located mounting means, a circular, disc-shaped cover member having mounting means at the center of the same adapted to be connected to the base member at its mounting means so that it may be rotated thereon relative to the base member, an elongated rectangular slot in said circular, disc-shaped cover member extending from a point adjacent the peripheral edge of the cover member to one side of said mounting means in said cover member, a slide member positioned in the rectangular slot and slidably mounted therein, and means on one surface of said slide member adapted to contact and co-operate with the guide surface on the base member such that when the cover member is rotated on said base member it will cause the means on the slide member to follow the guide surface in the base member to move said slide member in the cover member and uncover the tablet recesses in the upper surface of said base member progressively.

2. The pill dispenser of claim 1 in which the centrally located mounting means on the base member and the

mounting means in the cover member include a co-operating pedestal and aperture positioned in said base member and said cover member to co-operate in mounting the cover for rotative movement relative to the base member.

3. The pill dispenser of claim 1 in which the mounting means on the base member is a centrally located pedestal projecting above the upper surface of the same and the mounting means at the center of the disc-shaped cover member is an aperture extending therethrough with said pedestal having a clamping means thereon such that the cover member may be pressed over the base member and secured thereon for rotative movement relative to the base member.

4. The pill dispenser of claim 2 in which the guide surface located on the upper surface of the base member is a raised ridge and the means on said one surface of the slide member is a co-operating groove projection which rides thereon.

5. The pill dispenser of claim 2 in which the guide surface on the upper surface of the base member and the means positioned on one surface of the slider member include a groove in one of said members and the co-operating projection adapted to ride in the groove in the other of said members to cause said slide member to move in the cover member with rotative movement of the cover member relative to the base member.

6. The pill dispenser of claim 2 in which the guide surface on the upper surface of the base member is a spiral groove thereon extending between the adjacent tablet recesses from the outer edge toward the centrally located mounting means and the means on the one surface of the slide member is a projection which is adapted to ride therein whenever the slide member is mounted in the slot of the cover member in one position and which permits the slide member to be freely slidable in the slot whenever the slide member is positioned with the projection away from said base member.

7. The pill dispenser of claim 2 in which the slide member includes a portion having notched sides permitting the same to be inserted into the slot and with the remaining portion of the slide member being offset from the first-named portion so as to be moved over the surface of the cover member as the slide member is moved in the rectangular slot.

8. The pill dispenser of claim 7 in which the remaining portion of the slide member is bifurcated projections adapted to slide over the surfaces of the cover member as the slide member is moved in the slot between extreme positions.

9. The pill dispenser of claim 2 in which the means on the surface of the slide member when positioned in contact with and co-operating with the guide surface on the base member will cause the slide member to move progressively toward the center of the cover exposing the tablet recesses in said base member progressively from the outer peripheral edge of the base member to the center of the same.

10. The pill dispenser of claim 3 in which the cover member is made of a clear plastic transparent material and in which the base member includes a raised serrated surface around the centrally located pedestal to co-operate with a raised surface on the cover member to permit the cover to be moved on the base in one direction only.

11. The pill dispenser of claim 3 including a friction surface positioned between the cover member and the base member adjacent the mounting means to cause said cover member to remain in a position relative to the base member upon rotation of the same.

12. The pill dispenser of claim 11 and including indicia means mounted on the base member beneath the cover member and divided into angular segments corresponding to predetermined numbers of the tablet recesses angularly disposed in the base member to provide an

7

indication of medication to be taken for given periods of time.

13. The pill dispenser of claim 12 in which the number of segments on the indicia are seven with each segment marked with a day of the week notation and in which the number of tablet recesses in the base member are 28.

14. The pill dispenser of claim 13 and including a recess on the base member opposite the upper surface with the tablet recesses therein adapted to receive and mount an instruction sheet and identification of the medication contained therein.

5

10

8

References Cited

UNITED STATES PATENTS

2,236,224	3/1941	Raschkind	-----	206—42
2,780,349	2/1957	Tornberg	-----	206—42
2,899,046	8/1959	Cox.		

FOREIGN PATENTS

52,534 12/1966 Germany.

SAMUEL F. COLEMAN, *Primary Examiner*.