

[54] TABLET DISPENSER

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[22] Filed: Sept. 22, 1970

[21] Appl. No.: 74,438

[52] U.S. Cl. 116/121, 206/42, 221/5, 221/69

[51] Int. Cl. G09f 9/00

[58] Field of Search 221/5, 69, 87, 302; 206/42, 206/56 AC; 116/121

[56] References Cited

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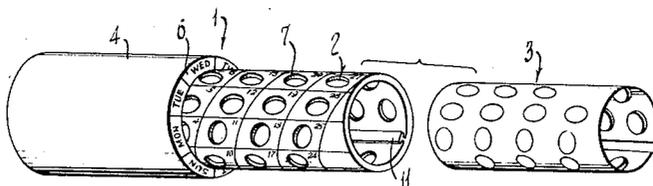
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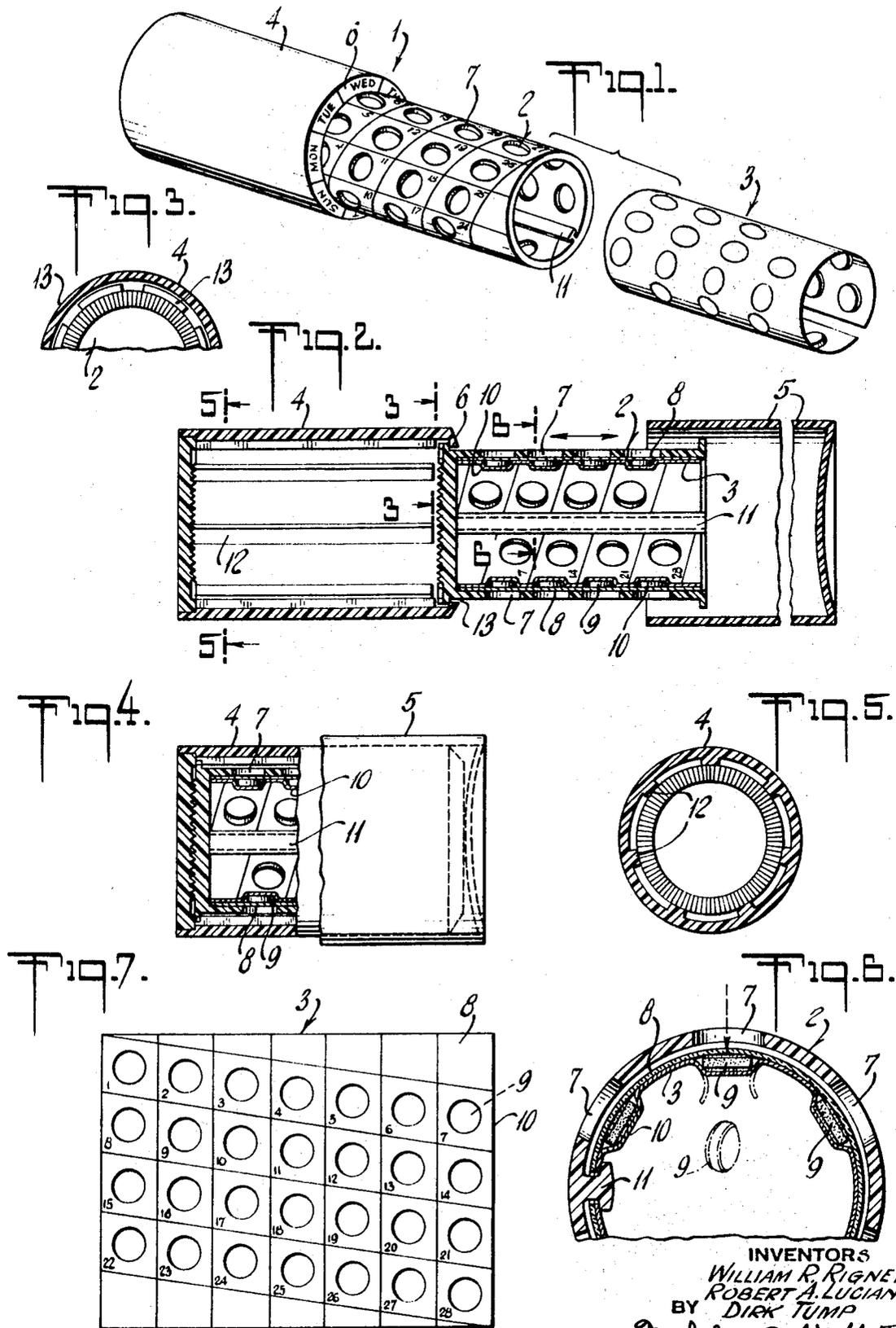
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[57] ABSTRACT

A tablet dispenser is provided in which both the calendar element and tablet element are hollow cylinders. The tablet element is both slidably and rotatably mounted within the calendar element. Indicia identifying days of the week are disposed on the surface of the calendar element adjacent its interface with the tablet element. The tablets are aligned in a series of axially oriented columns disposed circumferentially around the tablet element. In use, the tablet element is rotated with respect to the calendar element to align the first tablet to be taken with the indicia representing the day on which it is to be taken, thus automatically aligning each column of tablets with the indicia representing the day of the week on which they are to be taken. The tablet element is moved in and out of the calendar element to expose the next tablet to be taken on the day in question. The tablet is pushed inward through the tablet element into the hollow center of the same and into the patient's hand.

3 Claims, 7 Drawing Figures





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TABLET DISPENSER

It has become the general practice in the treatment of patients to prescribe that medication be taken in accordance with a fairly rigid time schedule. This is particularly true in the case of oral contraceptives where the user must adhere to a schedule of use which is determined by the user's individual menstrual cycle. Failure to adhere to the prescribed schedule of use will generally result in the failure of the medication to induce the physiological effect on which contraception is based.

In order to assist users of oral contraceptives in following the prescribed regimen, oral contraceptive tablets are generally packaged in dispensers which permit the user to determine immediately upon any given day of the week whether a tablet was in fact taken on that day. This is most often accomplished by associating an empty or occupied tablet position with an indicia representing the particular day of the week involved.

Many such dispensers are available and have previously been described in the literature. In most of these dispensers a tablet disc is concentrically mounted either inside or outside of a calendar disc. The calendar disc contains a series of indicia located at spaced positions around its periphery, the indicia representing the various days of the week. The tablet disc and the calendar disc are usually rotatably mounted with respect to each other so that any given tablet may be registered with the indicia representing a particular day of the week. The tablets in such a dispenser are so arranged that when a given tablet is registered with the indicia representing the day of the week on which it is to be taken each of the remaining tablets is automatically aligned with the indicia representing the day of the week on which the tablet is to be taken. Tablet dispensers of this type are described for example in U.S. Pat. No. 3,143,207 to Wagner.

In many of the tablet dispensers now available, the tablet disc contains a series of apertures and the tablets contained in a blister laminate which lies over or within the apertures in the tablet disc. In order to dispense a given tablet, the user applies pressure to the portion of the blister overlying the tablet to rupture the underside of the blister and push the tablet through the aperture.

In the tablet dispenser of this invention, both the calendar element and the tablet receiving element are hollow with one open end and the inner cross-sectional perimeter of the calendar element and the outer cross-sectional perimeter of the tablet receiving element are of the same shape which, more particularly, is either circular or polygonal. In other words both the outer surface of the tablet receiving element and the inner surface of the calendar element are either cylindrical or prismatic. The tablet receiving element is telescopically situated within the calendar element, and the tablet receiving element is rotatably mounted with respect to the calendar element.

The calendar element contains a series of indicia of time spaced about its perimeter adjacent its interface with the tablet receiving element, the indicia of time expanding over a period of at least one calendar week. The tablet receiving element contains a series of apertures which in turn are disposed in a series of axial columns, at least one column for each of the indicia on said calendar element. The apertures are so spaced that when one column of the same are aligned with one of the indicia of time, a column of tablets will be aligned with each of the indicia of time. A blister laminate containing the tablets is associated with the tablet receiving element with the tablets aligned with the various apertures. The apertures and the tablets are also arranged circumferentially of the tablet receiving element in the order in which the tablets are to be taken, the first tablet to be taken being prominently indicated.

In using the tablet dispenser, the patient will be instructed to rotate the tablet receiving element with respect to the calendar element until the first tablet to be taken is aligned with the day of the week on which the first tablet is to be taken. Thus each of the remaining tablets will automatically be aligned

with the day on which they in turn are to be taken. Means are provided to hold the tablet receiving element in relatively fixed rotational position with respect to the calendar element once the initial setting of the dispenser is accomplished.

As noted earlier the tablet receiving element, in addition to being rotatably mounted with respect to the calendar element, is also slidably mounted with respect thereto. Thus at the time of taking, each individual tablet may be located immediately adjacent the indicia representing the day of the week on which it is to be taken, and thus mistakes are minimized. In addition the apertures and the tablets are preferably disposed in a helical formation in the order in which they are to be taken. Thus the regimen is disposed in a visually continuous pattern. When the helical configuration is used, only one tablet in the entire regimen can, at any given time, be immediately adjacent an indicia of time; and mistakes are thus further minimized.

As previously noted, when using the tablet dispenser of this invention, pressure is exerted on the portion of the blister overlying each tablet in order to force the tablet from the blister laminate. The tablet falls into the center of the hollow tablet receiving element and eventually falls into the hand of the patient, which will be located at the open end of the tablet receiving element. In prior art dispensers utilizing blister laminates, the tablets have been arranged in a series of rows or concentric annular formations. Thus when dispensing the tablet, it was necessary for the user to have her hand immediately under that tablet location. In the dispensers of this invention, however, no matter the location of the tablet which is dispensed, the tablet will arrive at the same location, the open end of the tablet receiving element.

The dispensers of this invention may be better understood by reference to the appended drawings wherein,

FIG. 1 is an exploded view in perspective of a tablet dispenser of this invention;

FIG. 2 is a cross-section of the dispenser of FIG. 1;

FIG. 3 is a cross-section of the dispenser of FIGS. 1 and 2 taken along lines 3—3 of FIG. 2;

FIG. 4 is a partially broken-away view of the dispenser of FIGS. 1 and 2 closed;

FIG. 5 is a cross-section of the dispenser of FIGS. 1 and 2 taken along line 5—5 of FIG. 2;

FIG. 6 is a cross-section of the tablet dispenser of FIGS. 1 and 2 taken along lines 6—6 of FIG. 2; and

FIG. 7 is an exploded view of a blister laminate which can be used in the dispensers of this invention.

Referring now specifically to the drawings, there is illustrated a tablet dispenser, 1, consisting of a hollow tablet receiving element, 2, a tablet blister laminate, 3, and a hollow calendar element and base, 4. The tablet dispenser, 1, additionally comprises a top, 5, which acts as a cover. Both the calendar element, 4, and the tablet receiving element, 2, are cylindrical in shape and circular in cross-section; although as previously indicated, these elements may also be prismatic in shape and polygonal in cross-section. The tablet receiving element, 2, is telescopically mounted within the calendar element, 4; and the tablet receiving element, 2, is additionally both rotatably and slidably mounted with respect to the calendar element, 4. The calendar element, 4, contains a series of indicia, 6, equidistantly spaced around its perimeter adjacent the interface of the calendar element with the tablet receiving element, 2. The tablet receiving element, 2, contains a series of apertures, 7, located in a series of axial columns one of which aligns with each of the indicia, 6. Proceeding circumferentially of the tablet element, the apertures, 7, are arranged in a helical formation.

The blister laminate, 3, consists of a stiff piece of paperboard, 8, with the tablets, 9, spaced thereon. Both the tablets and the paperboard are overlain with a foil sheet, 10, which is easily rupturable. The blister laminate, 3, is interposed within the hollow tablet receiving element, 2, so that one tablet underlies each of the apertures, 7. The blister laminate is held in position by a rail, 11, molded in the inner surface of the tablet receiving element, 2. Thus a dispenser may be provided in which refills of the tablet regimen are interposed monthly.

The inner wall of the calendar element contains a series of bars, 12; and the end of the tablet receiving element contains a series of protuberances, 13, which mesh with the bars, 12. In initially setting the tablet dispenser, the tablet receiving element, 2, is moved to the fully extended position with respect to the calendar element, 4, as illustrated in FIG. 2. When in this position, the protuberances, 13, are completely free of the bars, 12; and thus the tablet receiving element may be freely rotated with respect to the calendar element to register a given indicia of time with the first tablet that is to be taken. After initially setting the dispenser, the tablet receiving element is pushed within the calendar element to the closed position as illustrated in FIG. 4. The meshing of the bars, 12, and the protuberances, 13, keep the calendar element and tablet receiving element aligned. In thereafter dispensing the tablets the cover is removed and the tablet receiving element pulled outward until the next tablet to be taken is immediately adjacent an indicia representing the current day of the week. The patient will be able to identify this tablet by the pattern of the tablets, numbers associated with the same, or the like. The tablet is dispensed by applying pressure to the same to push it through the rupturable foil into the hollow center of the tablet receiving element. The patient's hand will be positioned at the open end of the tablet receiving element. Care must be taken not to pull the tablet receiving element to its fully extended position since, at that point, the same will again be rotatable with respect to the calendar element.

What is claimed is:

1. In a blister type tablet dispenser of the type comprising a tablet receiving element containing a series of apertures aligned with tablets in a blister laminate the tablet receiving element being rotatably mounted within and concentric with a calendar element, the calendar element containing a series of

indicia representing the various days of the week on which tablets are to be taken, and the tablets being aligned in columns which in turn are alignable with the indicia representing the various days of the week, the tablets being arranged in a predetermined pattern corresponding to a daily schedule for dispensing the tablets, the improvement comprising:

the calendar element and the tablet receiving element being either circular or polygonal in cross-section and cylindrical or prismatic in shape, the tablet receiving element being telescopically mounted with respect to the calendar element and being both rotatably and slidably movable with respect thereto, means also being provided to secure the tablet element in a given rotational position with respect to the calendar element,

the indicia of time being disposed at the perimeter of the calendar element adjacent its interface with the tablet element, the apertures in the tablet receiving element being arranged axially in a series of rows equal in number to the number of indicia disposed on the calendar element and being circumferentially arranged in the order in which the tablets are to be taken,

said tablet receiving element being hollow and having one open end whereby when the tablets are dispensed by applying pressure to the blister laminate, the tablets fall into the interior of the tablet receiving element and are dispensed through the open end of the same.

2. The tablet dispenser of claim 1 in which the apertures in the tablet receiving element are arranged in a helical pattern circumferentially of the tablet receiving element.

3. The tablet dispenser of claim 2 in which the calendar element and the tablet receiving element are circular in cross-section and cylindrical in shape.

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