ABSTRACT

An organizer and divider for medications is contained within a single unit and configured for the convenience and safety of users who may have mental and physical handicaps in handling their health needs.
INTEGRATED PILL ORGANIZING AND DIVIDING UNIT

CROSS-REFERENCE TO PRIOR APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/497,506, filed Aug. 25, 2003, the contents of which are incorporated herein by reference thereto.

FIELD OF THE INVENTION

[0002] This invention relates to the systematization and handling of individual medications. More specifically, the invention relates to the organization and division of pills for individual use.

BACKGROUND OF THE INVENTION

[0003] As individuals age, they often are faced with the compound dilemma of increased need for medication as well as mental and physical difficulties in handling their medication needs. Elderly people may have difficulty in remembering needed medicines and whether they already consumed them. When pills or tablets must be divided to achieve the correct dosage, arthritic or feeble hands may not be up to the task.

[0004] Several pill cutters have been disclosed to deal with the latter problem. U.S. Pat. No. 4,159,568 teaches a capsule container with cutting edges on the container for cutting an elastic capsule into two parts. U.S. Pat. Nos. 4,173,826 and 4,697,344 teach a pill cutter which comprises upper and lower members to which are affixed resilient pads, with a cutting element attached to one member such that a pill is split when compressed between the resilient pads. U.S. Pat. No. 4,179,806 discloses a pill-splitting implement which retains a pill in position for division by a knife-edge means. U.S. Pat. No. 4,824,000 teaches an apparatus for dividing a pill including a platform with centering means, a movable blade for dividing the pill, and means for capturing and dispensing the divided portions. U.S. Pat. No. 5,118,021 discloses a device for splitting small objects comprising a receptacle for centering a variety of objects, and a top supporting a blade for dividing the objects.

[0005] Pill-storage devices also are known. For example, U.S. Pat. No. 5,351,818 teaches a medicine box comprising a pill container for receiving a weekly supply of pills in daily receptacles, pill-bottle storage space, and receptacles and windows for displaying information. U.S. Pat. No. 6,449,218 B1 discloses a medicine storage device with a plurality of compartments including a microprocessor, alarm, display and optional pill splitter that can be fastened to a compartment including a blade, shelf and cavity into which the split pill can be moved.

[0006] Devices of the known art thus require the user to handle separate devices to organize pills and to divide them.

SUMMARY OF THE INVENTION

[0007] A primary object of this invention is to provide a self-contained, convenient device to organize, dispense and have the capability of dividing medications over a plurality of time periods. It is also an object of the invention to provide a convenient pill organizer and divider that can be used advantageously by many elderly and disabled people who may not have the dexterity to handle known devices for this purpose. It is a further object of the invention to provide a pill divider that is safe to use for those of limited dexterity who might be injured by exposed sharp blades. It is yet another objective to provide a pill organizer and divider that will not inconveniently activate security devices via metal blades.

[0008] In a broad embodiment, the present invention comprises an integrated pill organizing and dividing unit comprising a main body defining a plurality of receptacles for receiving and dispensing pills and lid means for reversibly closing the plurality of receptacles, wherein one or more of the receptacles is a dividing receptacle comprising dividing means for splitting at least one pill into two or more fragments.

[0009] In a more specific embodiment, the present invention comprises an integrated pill organizing and dividing unit comprising a main body defining a plurality of receptacles for receiving and dispensing pills and lid means pivotally connected to the main body for reversibly closing each of the receptacles, wherein one or more of the receptacles is a dividing receptacle comprising an edge affixed to a chamber for dividing the pill, a resilient lid pad for pressing the pill onto the edge, and a resilient chamber pad for holding at least one pill in position to be divided.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. I shows an embodiment of the invention with closed receptacles.

[0011] FIG. II shows an embodiment of the invention with receptacles open to illustrate features of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] The integrated pill organizing and dividing unit of the invention is suitable for receiving, organizing, dispensing and dividing a variety of solid medications and health-enhancement items. These may be in the form of pills, tablets, pellet, caplets, capsules, lozenges and the like. For purposes of describing the invention, the reference “pill” will be used for the form of the medications. The term “pill” represents a plurality comprising two or more pills.

[0013] Receptacles for receiving, dispensing and dividing pills are contained in a unitary main body for the convenience of the user in having the means for carrying and dividing pills in a single convenient unit. The receptacles comprise chambers which may be of any size and shape suitable for the purpose of organizing and dividing pills and are attached to each other as parts of the main body. Each receptacle of a pill holder usually comprises a chamber volume of between 0.1 and 30 cc (cubic centimeters), and more usually between 1.0 and 20 cc. Preferably chambers of the receptacles avoid sharp edges to preclude accumulation of fines and have one or more flat surfaces for efficiently fitting into a plurality with minimal unused space in a main body holding the receptacles. Preferably, but without limiting the invention, all of the receptacles are of essentially the same size and shape.

[0014] A plurality of receptacles comprises at least three receptacles, at least two for receiving and dispensing one or more pills each at different time periods and one for dividing
one or more pills. The invention is not limited by any maximum number of receptacles. For example, the plurality could comprise two or three receptacles for receiving and dispensing one day’s pills and one receptacle for dividing pills. The plurality alternatively could comprise eight receptacles, seven for receiving and dispensing one week’s pills plus one for dividing pills. Further, for example, the plurality could comprise two, three or four receptacles for each day of a week, receiving and dispensing pills for two, three or four times of the day, plus one or more dividing receptacles.

[0015] An embodiment of the integrated pill organizing and dividing unit is illustrated in perspective sketches FIGS. I and II. The embodiment is illustrative but not restrictive of the invention in showing a plurality of eight receptacles, all of which are unitary with the main body of the unit, in two rows of four in the unit. Eight receptacles, for example, may comprise seven for receiving and dispensing pills over a weekly period and an eighth receptacle for dividing a pill.

[0016] FIG. I shows a unit 100 with each of eight receptacle lids 110 for reversibly closing the receptacles all being closed. The lids in this example indicate days of the week, with “C” indicating a dividing or cutting receptacle. The marking of the lids in no manner limits the invention; lids may be marked with any indicia preferred by the user, for example days of the month, or may have no markings and a suitable surface for marking by the user.

[0017] FIG. II shows the unit 100 of FIG. I with three of the eight receptacle lids open to show the interior of the receptacles. Five of the lids, including lid 110 for “W,” remain closed. The receptacles marked “Th” and “F” represent chambers for receiving and dispensing pills; the former is open to show undivided pills 120 in the chamber, and the latter is open to show divided pills 130. The receptacle marked “C” is a dividing receptacle, as noted previously, containing an edge 140 which is attached to the base of the receptacle chamber in a perpendicular position to the direction of the pivotal closing of the lid for dividing one or more pills. The dividing receptacle preferably comprises a resilient chamber pad 150 adjacent to each side of the edge to support a pill and to protect the user from inadvertently contacting the edge with a finger. A resilient pad 160 is secured to the underside of the lid which pad presses a pill onto the edge when the lid is closed.

[0018] Another embodiment of the integrated pill organizing and dividing unit comprises thirty-two (32) receptacles in a main body; this could represent for example 28 to 31 days in a month, with one or more dividing receptacles, or alternatively a week’s worth of pills organized into four time periods per day with one or more dividing receptacles and optionally receptacles for special purposes. As in the example of eight receptacles, each dividing receptacle preferably comprises an edge, a resilient chamber pad adjacent to each side of the edge to support a pill and to protect the user from inadvertently contacting the edge with a finger, and a resilient pad secured to the underside of its lid.

[0019] The plurality of receptacles are reversibly closed by lid means, in that pills may be received or dispensed when lid means are open and that the pills remain within the receptacles when the lid means are closed. Preferably the lid means are pivotally affixed to the main body, i.e., the lid means remain part of the pill organizer and divider whether open or closed. The lid means may be pivotally affixed to the main body by, for example, a hinge or a piece of flexible material; flexible plastic which of the same material as the receptacle is especially preferred. Optimally, each receptacle is provided with a lid which is pivotally affixed to the individual receptacle. The lid means may reversibly close each receptacle by any suitable method, including one or more of friction and adhesive. Optimally each lid comprises an outer rim that is slightly smaller or larger than the rim of the receptacle such that the lid is held securely but reversibly by friction to the receptacle. A tab or lip is advantageously attached to one or both of the lid and receptacle to facilitate opening by the user, and especially advantageously to facilitate opening and closing the lid of each receptacle with one hand.

[0020] The lid of a dividing receptacle optimally comprises a resilient lid pad which is of sufficient lateral dimensions and depth to pressure a pill against an edge within the receptacle to divide it as described hereinbelow without crushing it into multiple fragments.

[0021] One or more dividing receptacles each comprise an edge molded or fastened to the base of the chamber of the receptacle for dividing at least one pill. The edge has a cutting ridge which will divide a pill when the pill is pressured against it, assisted by the resilient lid pad as described hereinabove when the receptacle is closed. The edge preferably is positioned in a perpendicular position to the direction of the pivotal closing of the lid in order to effect a clean division of the pill. The dividing receptacle also contains resilient chamber pads adjacent to each side of the edge to maintain the underside of the pill in a position over the edge. When the receptacle is closed, the resilient lid pad contacts or approaches the resilient chamber pads sufficiently to pressure the pill onto the edge to divide the pill without crushing it. The ability of the resilient chamber pads to position pills for division permits two or more pills, when such number can be contained within the chamber, to be divided simultaneously in each dividing receptacle. The resilient chamber pads together substantially fill the lateral dimensions of the chamber and preferably extend above the surface of the edge when the receptacle is open, both to control division of the pill when the receptacle is closed and to protect fingers of the user when placing the pill in the open receptacle.

[0022] The edge may be of any material with configuration suitable for dividing a pill when the pill is pressured against the edge. A metallic blade as the edge is within the scope of the invention; however, a nonmetallic edge is preferred in order that the pill organizer and divider could pass through a security check without disturbance. Further, a metallic blade would provide a more serious risk of injury to fingers of less-dexterous persons.

[0023] The resilient materials of the resilient lid pad and resilient chamber pad comprise any suitable material for positioning a pill for division without crushing it. Suitable materials include, without limiting the invention, rubber, fibrous material or a foamed plastic material such as polyurethane. A particularly suitable dividing receptacle comprises features taught in U.S. Pat. No. 4,173,826, incorporated herein in its entirety by reference thereto.

[0024] The pill organizer and divider may be fabricated of any of one or more materials, excluding any metallic content which could register on a security device, suitable to accom-
The above description and figures are intended to be illustrative of the invention without limiting its scope. The skilled routine user will readily understand how to extrapolate the disclosure to other embodiments of the invention. The invention is limited only by the claims set forth herein.

1 claim:

1. An integrated pill organizing and dividing unit comprising a main body defining a plurality of receptacles for receiving and dispensing pills and lid means for reversibly closing the plurality of receptacles, wherein one or more of the receptacles is a dividing receptacle comprising an edge for dividing at least one pill into two or more fragments.

2. The pill organizing and dividing unit of claim 1 wherein the dividing receptacle comprises resilient receptacle pads adjacent to each side of the edge to maintain the underside of the pill in a position over the edge to effect a desired division of the pill.

3. The pill organizing and dividing unit of claim 2 wherein the dividing receptacle comprises a lid pivotally affixed to the main body, which lid comprises a resilient lid pad to pressure at least one pill against the edge.

4. The pill organizing and dividing unit of claim 1 comprising eight receptacles of which one is a dividing receptacle containing the edge.

5. The pill organizing and dividing unit of claim 4 comprising two rows of four receptacles each.

6. The pill organizing and dividing unit of claim 4 wherein the seven receptacles not containing the edge are each dedicated to receiving and dispensing pills for one day of the week.

7. The pill organizing and dividing unit of claim 1 wherein the lid means comprises one lid for reversibly closing each receptacle.

8. The pill organizing and dividing unit of claim 7 further comprising means to facilitate opening and closing of each lid with one hand.

9. The integrated pill organizing and dividing unit of claim 1 wherein one or more dividing receptacles comprises means for simultaneously dividing two or more pills in each receptacle.

10. The pill organizing and dividing unit of claim 1 further comprising means to facilitate opening and closing of each lid with one hand.

11. An integrated pill organizing and dividing unit comprising a main body defining a plurality of receptacles for receiving and dispensing pills and lid means for reversibly closing the plurality of receptacles, wherein one or more of the receptacles is a dividing receptacle comprising:

   a. an edge for dividing at least one pill into two or more fragments;

   b. resilient receptacle pads adjacent to each side of the edge to maintain a pill in a position over the edge to effect a desired division of the pill; and,

   c. a lid comprising a resilient lid pad to pressure at least one pill against the edge.

12. An integrated pill organizing and dividing unit, fabricated from one or more materials excluding any metallic component, comprising a main body defining a plurality of receptacles for receiving and dispensing pills and lid means for reversibly closing the plurality of receptacles, wherein one or more of the receptacles is a dividing receptacle comprising:

   a. an edge for dividing at least one pill into two or more fragments;

   b. resilient receptacle pads adjacent to each side of the edge to maintain a pill in a position over the edge to effect a desired division of the pill; and,

   c. a lid comprising a resilient lid pad to pressure at least one pill against the edge.

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