A thin, credit card sized reusable pill case. A top half lid and bottom half base are joined by a living hinge on one side and a releasable lock on the other side. Individual dosages are secured within the pill case in pods, the pods being sized to fit a particular medication pill to be held therein. Each pod substantially encloses the individual pill while having a finger engagement opening to allow easy extraction of the pill without turning the pill case upside down. Transparent windows formed in the top half case are aligned over the pods to allow the inventory of the pill case to be assessed without opening the pill case. In an alternative embodiment, sawtooth edges are provided to perforate packaging around pre-packaged medications.
Figure 8

Figure 9
FLAT PACK PILL CASE

FIELD OF THE INVENTION

[0001] A flat pack provides a reusable pill case having provisions for retention and security of individual medication pills while also providing easy accessibility to the pills.

BACKGROUND OF THE INVENTION

[0002] Medication in the form of pills, tablets and capsules, has become a traveling companion for a vast number of persons affected by ailments and diseases of all kinds and severity. The desire and need of a user to always have pills, tablets or capsules with him and available, comprising a dose or doses of medication, has created a need for a convenient and secure carrying case or packaging for the pills, tablets or capsules. The ease of portability of such a carrying case or package is of the utmost importance. Prior art pill storage and transport cases have taken on a great number of different structures and designs, the most basic being the familiar cylindrical pill bottles with locking caps in which prescription medication is typically packaged.

[0003] As the use and variety of medication have increased, cases for carrying doses of the medication with a user have evolved. One problem that has been addressed by prior art pill cases has been the transportability of the pill case. Specifically, pill cases have been designed and developed that are smaller and flatter than the common prior art cylindrical pill bottles with locking caps. In addition, the evolution of pill cases has seen a variety of novel dispensing means applied to pill cases to facilitate removal of a single pill. Examples of prior art pill cases adopting a more easily transported flat profile with a distinctive dispensing means include U.S. Pat. No. 5,974,294 to Omata et al.; U.S. Pat. No. 6,068,126 to De Jonge; and U.S. Pat. No. 4,230,237 to de Wit.

[0004] Another approach at designing a device for transporting medication has been to pre-packaged pills in a blister pack wherein each individual pill is contained in a separate bubble cavity such that it may be removed individually by pushing them through a back panel. Blister packaging of pills is reflected in U.S. Pat. No. 4,889,236 to Bartell et al.; U.S. Pat. No. 5,927,500 to Godfrey et al.; and U.S. Pat. No. 4,753,352 to Dauphin et al. Blister packs allow for a slim design and are easily adapted to various size pills. The '236 Patent to Bartell specifically contemplates the use of such packaging as a credit card style blister pack that may be carried in a purse or wallet. Blister packs have a number of disadvantages, however. First, the pills are pre-packaged in the blister packs, increasing the cost of the medication because the cost of the packaging is built into the cost of the medication. Second, the blister pack is not re-usable; once the pills stored in the blister pack are consumed, the empty pack is discarded and a new blister pack of pills must be purchased.

[0005] In addition, there a number of medications that are of relatively infrequent use and which require only a small or one-time dosage, but which a user desires to keep with him at all times. For such medication, a blister pack having 10 or 20 or 30 pills is a waste of money. For example, it is advisable for persons having heart conditions to carry nitroglycerin pills with them at all times. In the event of a heart attack, immediate ingestion of one or two nitroglycerin pills can be very beneficial. However, there is no purpose for a user to carry a blister pack with many nitroglycerin pills in it. The use is immediate and of a small dosage and will in all probability only be used a couple of times in a lifetime, so a blister pack having 20 nitroglycerin pills will be a waste of money and packaging.

[0006] Another important consideration in the design of a pill carrying case, particular if the medication will be accessed during a period of physical distress, e.g. a heart attack, is the ease of accessing the pills. Blister packs are disadvantageous in this regard by requiring the pill to be pushed by a user through a back cover membrane, which may very well be an obstacle that cannot be overcome by a person suffering a heart attack.

[0007] A need is thus identified for a reusable pack for retaining and securing medication pills, the pills in the pack being easily accessible and the pack being of such design that it is easily transportable, specifically as a thin credit card sized pack that can be carried in a wallet or purse.

[0008] The high cost of some medications provides additional motivation for an improved pill case. Specifically, a user that pays a large amount for a single pill will want to ensure that the pill will be secured and protected within the pack. If pills are able to rattle around within the case or to contact other pills stored in the case, there is an increased danger that the pill will crumble or be chipped, broken or powdered, particularly if the pill exists in the case for weeks, months or even years before it is used. In addition, if the pill is not easy to remove from the case, there is an increased risk of dropping or losing the pill during extraction from the case.

[0009] One example medication that a user will want to easily and quickly access, but which may be stored for weeks or months without being used, is the sexual enhancement drug VIAGRA. Each VIAGRA pill is very expensive, so a user wants to be sure that the integrity of the pill is maintained in the case. Protection from contamination, from crumbling, powdering, chipping or breaking, are all desired functions of a case designed to carry VIAGRA. In addition, it is desirable to provide a case that is easily transportable and which permits a user discretion in the transport and use of the medication. To those ends, it is desirable to provide a pill case that holds each VIAGRA pill isolated and secure from contact with other pills and to prevent rattling within the pill case. In that way, it will be possible to protect the integrity of the VIAGRA pill even if it exists in the pill case for weeks, months or years before it is used. The desirable pill case will be sized similarly to a credit card and will have a thin profile that allows discretionary storage in a wallet or billfold, and will also incorporate an easy opening device.

[0010] For a user that transports medication in a pill case, particularly for a user and medication that will be accessed infrequently, it is desirable to know the inventory of medication in the pill case without having to open it. That is, if a user must open the pill case to check its inventory, there is an increased risk of dropping the medication or spilling the pill case's contents during the inventory check. This risk is eliminated if transparent windows are provided that allow a user to check the inventory without opening the pack. In a number of the prior art blister packs, in which pills are pre-packaged, a user can evaluate the inventory because the pills will be visible through the blister pack if they are
present. However, in a reusable pill case wherein expensive medications are retained, it is desirable to provide a pod for holding each pill securely and a transparent window over each of the pill containing pods, so that a user can instantly assess the inventory of medication in the pill case without opening the pill case.

[0011] In some instances, medication comes in individually pre-packaged units, generally in perforated, separable blister packs on which a card may be torn to separate a single dose of such pre-packaged medication. Examples of such pre-packaged medication include pills such as vitamins, and cold and flu pills and a variety of other medications that come in perforated and separable blister packs.

[0012] Another specific example of an individually packaged item that a user carries with him is chewing gum containing a nicotine supplement that is utilized to allow smokers to be weaned off cigarettes. Some of the most well known manufacturers of such nicotine gum provide each chiquicklet of gum wrapped in an individual blister pack foil backed package. These individually wrapped medications are important relative to portable pill cases because the gum is extremely expensive and it is desirable to provide a pill case for carrying such individual chiquicklets to eliminate the transport of small individually packaged chiquicklets. A pill case accommodating such medication has the advantage of allowing a user to neatly carry multiple pre-packaged units in a credit card sized case that may be carried in a wallet or billfold rather than carrying multiple individually pre-packaged units.

[0013] Another difficulty encountered with the use of small pre-packaged doses of medications, gums, etc., in blister pack, foil backed packaging is the difficulty in opening the dosage pre-packaging in which they are wrapped. Typically the size of a dime or nickel, the individual blister pack, foil backed pre-packaging requires a user to break a seal or peel away a corner of the pre-packaging to get at the medication, gum, etc. For such small items, good finger dexterity is required to remove the pill therefrom, specifically to peel the foil backing away. This becomes even more problematic when the package contains gum and is unintentionally heated such as through body warmth transferred to the package and gum. The gum becomes sticky and gooey and difficult to remove as a result. Peeling away the foil backing becomes particularly difficult under those circumstances. There is thus identified a need for a pill case designed to carry such pre-packaged medication, gum, etc., that is advantageously designed such that the pre-packaging is punctured or perforated by the pill case upon closure. The puncturing of the pre-packaging is particularly advantageous for small items that require fingertip dexterity to open. A pill case with perforating teeth that clamp down on and puncture pre-packaging around medication, gum, etc., is advantageous because it reduces the difficulty in removing the foil backing therefrom so that the medication, gum, etc., immediately available to the user upon opening the pill case without having to further puncture or manipulate the prepackaging.

[0014] Finally, it is advantageous to provide a reusable pill case that may be used and reused to store individual doses of expensive medication having provisions to write identification information thereon indicating the owner and the medication stored therein. It thus is desirable to provide a pill case having a surface on which a user may write or print such information.

OBJECTS OF THE INVENTION

[0015] It is an object of the present invention to provide a reusable pill case that is highly portable and securely retains individual pills in fixed positions.

[0016] It is another object of the present invention to provide a reusable pill case of the approximate dimensions of a credit card that has a thin profile and fits within a wallet or billfold for ease of transport.

[0017] It is yet another object of the present invention to provide a reusable pill case formed from a single piece of material with provisions for retaining pills in fixed and secure positions during transport.

[0018] It is a further object of the present invention to provide a reusable pill case having pods that are sized to fit particular pills, said pods having means for accessing an individual pill in the pill case by a user's finger without disturbing the other pills stored in the pill case.

[0019] It is a further object of the present invention to provide a reusable pill case having individual pods and means for a user to assess the inventory of the medication in the pill case without opening it by providing transparent windows aligned with individual pods wherein pills are securely retained and protected.

[0020] It is yet another object of the present invention to provide a reusable pill case which prevents the movement or rattling of pills stored therein to protect the integrity and effectiveness of such pills.

[0021] It is another object of the present invention to provide a reusable pill case incorporating means for puncturing pre-packaging around medication upon closure of the case so that upon reopening the case the medication is immediately available for use.

[0022] It is a further object of the present invention to provide a highly portable reusable pill case formed from a single piece of material that includes multiple sub compartments, each sub compartment having different size pods to accommodate specific medications.

[0023] It is yet another object of the present invention to provide a highly portable credit card sized pill case having a surface for writing identification of the user and medication stored thereon.

[0024] These and other objects and advantages of the present invention will be apparent from a review of the following specification and accompanying drawings.

SUMMARY OF THE INVENTION

[0025] The present invention is a reusable pill case for storing and securing individual pills wherein the case comprises a top half lid and a bottom half base connected on one side by a living hinge. On the other side of the pill case is provided a locking means such that the top half lid may be closed and secured to the bottom half base. Pods are provided as part of the pill case that securely retain and maintain the position of pills when the pill case is closed and locked to prevent movement of the pills. Crumbling, ship-
ping, erosion and powdering of the pills over time is prevented by securing and retaining them within the pods.

[0026] The pods formed as part of the reusable pill case of the present invention comprise upstanding walls substantially enclosing the pills to be retained therein. The pods are sized appropriately to accommodate the particular pills that are retained therein. In the most preferred embodiment of the present invention, the pods are affixed to the bottom half base although it is specifically contemplated that the pods can also be affixed to the top half lid or can be partial cooperating pods affixed to the top half lid and bottom half base which combine to hold the pills securely in place. The pods of the present invention have the advantageous feature of a partial opening wherein a user may extract a pill stored in a pod by engaging the pill with a fingertip. The fingertip access opening allows for the extraction of a single pill without disturbing the remaining pills stored therein.

[0027] The most preferred embodiment of the present invention comprises a reusable pill case having transparent windows formed therein that align with the pill retaining pods so that a user may instantly assess the inventory of pills stored therein without opening the pill case. The windows are preferably formed in the top half lid of the pill case. By providing the windows as an inventory assessment means, the need for a user to open the pill case to check the inventory is eliminated, thereby reducing the risk of opening the case and spilling its contents.

[0028] On the exterior of the bottom half base a surface for providing vital information about the medication user and the medication itself is provided. Specifically, a user will be able to print identification information such as name and phone number, as well as the kind of medication stored within the reusable pill case, on the exterior of the pill case.

[0029] One of the preferred embodiments of the reusable pill case of the present invention comprises multiple sub cases, each having a top half lid and bottom half base connected on one side by a living hinge and on the other side by an individual locking means. The sub cases are attached so that a user may carry a single pill case accommodating multiple different medications, although the sub cases may be separately and independently opened and closed.

[0030] Another preferred embodiment of the present invention comprises raised sawtooth edges that cooperate with the upstanding walls of the pods to engage and puncture pre-packaging around medication, pills or gum stored therein. Upon closure of the top half lid on the bottom half base, the sawtooth edges engage the pre-packaging so that, upon reopening, the user needs only to remove the medication from the punched or punctured open pre-packaging. The need for a user to manually peel or puncture the pre-packaging is eliminated thereby.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0031] FIG. 1 is a perspective view of the opened reusable pill case of the present invention.

[0032] FIG. 2A is a side view of the reusable pill case of the present invention demonstrating closure of the top half lid onto the bottom half base.

[0033] FIG. 2B is a side view of the reusable case of the present invention with the top half lid closed.

[0034] FIG. 3 is a perspective view of a preferred embodiment of the present invention reflecting the use of inventory assessment windows in the top half lid.

[0035] FIG. 4 is a top view of a preferred embodiment of the reusable pill case of the present invention incorporating the use of inventory assessment windows.

[0036] FIG. 5A is a perspective view of the reusable pill case of the present invention that is bifurcated into two sub-cases for storage of different kinds and sizes of pills.

[0037] FIG. 5B is a perspective view of the reusable pill case of the present invention that is bifurcated into two sub-cases which also provides windows for inventory access.

[0038] FIG. 6 is a perspective view of a preferred embodiment of the reusable pill case of the present invention wherein raised sawtooth edges are provided to perforate pre-packaging around medication stored in the pill case.

[0039] FIG. 7A is a front view of a preferred embodiment of the reusable pill case of the present invention wherein raised sawtooth edges are being closed upon pre-packaged medication to perforate the pre-packaging around medication stored in the pill case.

[0040] FIG. 7B is a front view of a preferred embodiment of the reusable pill case of the present invention wherein raised sawtooth edges are closed upon pre-packaged medication to perforate the pre-packaging around medication stored in the pill case.

[0041] FIG. 8 is a view of the bottom of the reusable pill case illustrating the vital information and medication template surface on the exterior side of the bottom half base.

[0042] FIG. 9 is a perspective illustration of the finger extraction of the medication from a pod.

**DETAILED DESCRIPTION OF THE INVENTION**

[0043] The present invention comprises a reusable pill case 10 for storing and securing medication 11 in single dosage amounts. The reusable pill case 10 is of minimal thickness to accommodate the medication stored therein. Moreover, the dimensions of the reusable pill case 10 approximate those of a credit card so that the reusable pill case 10 may be readily transported and carried in a wallet or billfold. This allows the use of the reusable pill case 10, and the medication stored therein, to be highly transportable and discrete. As shown in FIG. 1, the reusable pill case comprises a top half lid 12 that is affixed to a bottom half base 14. A living hinge 16 bridges and connects the top half lid 12 to the bottom half base 14 along a first edge 15 of the top half lid 12 and a corresponding edge 17 of the bottom half base 14. The living hinge 16 is resilient and provides a spring effect such that the top half lid 12 pivotally rotates about the living hinge 16 relative to the bottom half base 14. While a variety of materials may be used to construct the reusable pill case 10, and are specifically contemplated, the most preferred embodiment contemplates construction from a polypropylene plastic resin.

[0044] Closure of the reusable pill case 10 is effected by rotating the top half lid 12 about the living hinge 16 against the spring effect of the living hinge 16, as indicated by the
directional arrow in FIG. 2A. On the interior of edge 30 of the top half lid 12 opposite the living hinge edge 15 and the exterior of edge 32 of the bottom half base 14 opposite the living hinge edge 17, there is provided a locking means 18 for securing the top half lid 12 closed upon the bottom half base 14. In the most preferred embodiment of the present invention, the locking means 18 comprises raised nubs 20 that are small elongated protuberances affixed to the exterior edge 32 of the bottom half base 18, and a lip 22 formed on the interior of edge 30 of the top half lid 12. A cavity 23 behind the lip 22 receives the nubs 20 to maintain the reusable pill case 10 in a closed condition as shown in FIG. 2B. As the top half lid 12 is rotated about the living hinge 16 as shown in FIG. 2A, the lip 22 engages and passes over the nubs 20 as a result of the pliable resiliency of the top half lid 12 and bottom half base 14 being formed from relatively soft, injection molded plastic such as a polypropylene plastic resin. Thus, the locking means 18 are provided along the second edge 30 of the top half lid 12 opposite the living hinge edge 15 and second edge 32 of the bottom half base 14 opposite the living hinge edge first edge 17. Other means and devices for locking the top half lid 12 to the bottom half base 14, such as, without limitation, slots, latches, grooves and other devices, are specifically contemplated within the principles of the present invention so that the use thereof is not distinguishable from the principles of the present invention.

In a significantly advantageous feature of the present invention, a number of pods 24 are affixed to the bottom half base 14 to hold and retain individual pills stored therein secure when the top half lid 12 is closed and locked to the bottom half base 14. It is specifically contemplated that the pods 24 may also be affixed to the top half lid 12, or cooperating pods 24 formed on both the top half lid 12 and bottom half base 14, without departing from the principles of the present invention. In the most preferred embodiment the pods 24 are formed from injection molded plastic at the same time as is the rest of the reusable pill case 10.

The pods 24 comprise upstanding walls 25 that are formed to specifically fit the medication to be carried in the reusable pill case 10. In the most preferred embodiment of the present invention, the upstanding walls 25 affixed to the bottom half base 14 extend almost to the top half lid 12 as shown in FIG. 2B, so that pills retained in the pods 24 and walls 25 are not free to rattle within the reusable pill case 10. In addition, the upstanding walls 25 and pods 24 are shaped and sized specifically for the medication that is to be stored within. For instance, single doses of VIAGRA, a relatively large pill, are shown retained in pods 24 in FIG. 1. Other medications such as, without limitation, other sexual enhancement pills, allergy medications, weight loss medications, anti-smoking medications, and a variety of others may be accommodated by merely changing the size and shape of the pods to hold and securely retain the specific pills.

The upstanding walls 25 comprising the pod 24 do not completely enclose a pill stored therein but rather include a finger access opening 26 that provides an improved means for extracting the pill 11 from the pod 24. As set forth above, the pod 24 is sized appropriately for the medication retained therein, and the finger access opening 26 is adequately small so that the tight engagement of the pill 11 by the pod 24 is maintained. The finger access opening 26 is located, in the most preferred embodiment of the present invention, on a corner of the pod 24, although alternative locations for the finger access opening 26 are contemplated. The finger access opening 26 is advantageous because it allows a user to extract the medication 11 stored in a pod 24 by engaging the medication 11 with his finger to pop it out of the pod 24 (see FIG. 9). There is thus no need to turn the pill case 10 over to use gravity or to otherwise shake the pill case 10 to extract the medication 11. The risk of spillage of the contents of the pill case 10 is reduced as a result.

The most preferred embodiment of the reusable pill case 10 provides transparent windows 40 in the top half lid 12 aligned with the pods 24 formed in the bottom half base 14. The windows 40 provide an inventory assessment means allowing the user to quickly determine the amount of medication stored therein without opening the pill case 10. This is beneficial because reducing the opening and closing of the reusable pill case 10 reduces the opportunities for spillage of the contents, i.e., the medication, and also reduces the opportunities for contamination thereof. As shown in FIGS. 3 and 4, the windows 40 are sized to allow the user visual access to the medication, although the precise size and location of the windows 40 may be varied without departing from the principles of the present invention. The windows 40 thus provide an inventory assessment means to the user through the visual inspection of the pods 24 and their contents without requiring the user to open the reusable pill case 10.

It is often desirable for a user to utilize a single pill case to transport more than one kind of medication. However, if the two medications comprise pills of different sizes, a uniform size pill would be inadequate to securely retain both medications to prevent chipping, rattling and powdering thereof. The present invention addresses this problem by providing an alternative preferred embodiment 50 wherein the reusable pill case 50 is bifurcated into two sub cases 52, 54, a first sub case 52 having a top half lid 58 connected to a bottom half base 60 by a living hinge 61. A locking means comprising a lip 70 on the top half lid 58 and nubs 68 on the bottom half base 60 is provided on the first sub case 52.

A second sub case 54 is provided having a top half lid 62, with locking lip 76, and a bottom half base 74 with nubs 75. The top half lid 62 is connected to the bottom half base 74 along a second living hinge 63, separate and independent from the living hinge 61 of the first sub case 52, so that the second top half lid 62 is operable separately and independently from the first top half lid 58. As shown in FIG. 5, the top half lids 58, 62 are distinct and may be opened and closed independently of each other. The pods 80 in the first sub case 52 are sized to accommodate the medication stored therein, such as VIAGRA, while the pods 82 in the second sub case 54 are sized to accommodate the size of the pills sought to be carried by the user. The size of the pods 80, 82 may be altered to accommodate different medications without departing from the principles of the present invention. In addition, it is specifically contemplated that additional subcases accommodating different medications may be added without departing from the principles of the present invention.

The bifurcated reusable pill case 50 is advantageous because it eliminates the need to have two separate
pill cases for two differently sized pills. It also is advantageous because, as a result of the separate and independent living hinges 61, 63, the two sub cases 52, 54 may be opened and closed independently of each other. As discussed above, decreasing the number of instances of opening and closing a pill case is advantageous because the opportunities for spillage and contamination are decreased. As shown in FIG. 5B, the bifurcated pill case 50 may be provided with windows to allow inventory assessment of the sub cases 52, 54.

[0052] Another preferred embodiment of the present invention comprises a reusable pill case 100 incorporating raised sawtooth edges 102 affixed to a top half lid 104. Upon closure of the top half lid 102 onto the bottom half base 106, the sawtooth edges 102 fit into pods 108 and extend substantially to the floor 110 of the bottom half base 106, as shown in FIG. 7B. Closure of the top half lid 104 onto the bottom base 106 effects engagement of the sawtooth edges 102 with the edges of prepackaged medication 112 as shown in FIG. 7B. The pre-packaging of medication 112 such as, without limitation, a blister pack with foil backing enclosing chewing gum having a nicotine supplement is punctured to ease the removal of the medication form the pre-packaging 112.

[0053] As shown in FIG. 8, a vital information template is provided on the underside 122 of the bottom half base 60. A similar template is provided for the bottom half base 14 and bottom half base 106 of the present invention.

[0054] The foregoing description of a preferred embodiment of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Obviously modifications or variations are possible in light of the above teachings. The embodiment was chosen and described in order to best illustrate the principles of the invention and its practical application to thereby enable one of ordinary skill in the art to best utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the claims appended hereto.

1 claim:
  1. A reusable pill case for storing and securing individual pills comprising:
     a top half lid;
     a bottom half base;
     a living hinge between said top half lid and said bottom half base along a first edge of said top half lid and said bottom half base;
     locking means along a second edge of said top half lid and said bottom half base, said second edge opposite said first edge; and
     pods securely retaining individual pills when said top half lid is closed and locked to said bottom half base.
  2. The reusable pill case of claim 1 wherein said pods comprise upstanding walls substantially enclosing said individual pills.
  3. The reusable pill case of claim 2 wherein said pods further comprise a finger access opening.
  4. The reusable pill case of claim 3 further comprising windows formed in said top half lid aligned with said pods.
  5. The reusable pill case of claim 4 wherein said top half lid comprises multiple top half lids and said bottom half base comprises multiple bottom half bases.
  6. The reusable pill case of claim 5 wherein said multiple top half lids are independently operable.
  7. The reusable pill case of claim 6 wherein said pods are sized and formed to accommodate different medications.
  8. The reusable pill case of claim 7 further comprising windows formed in said multiple top half lids.
  9. A reusable pill case for storing and securing individual dosages of prepackaged medication comprising:
     a bottom half base having compartments formed therein for receiving said pre-packaged individual doses; raised sawtooth edges affixed to a top half lid engaging said bottom half base;
     wherein said raised sawtooth edges engage and perforate said pre-packaged medication upon closure of said top half lid.

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